

Service Provider VoIP: Transforming VoIP Economics with a Cloud Based Platform

A Technical Paper
by ZCorum





Overview

The voice landscape is more crowded than ever. Fixed-line telcos, cable operators, over-the-top players, mobile providers, and VoIP service providers are all vying for a piece of the voice services pie. While the voice services market remains massive, unprecedented competition and technology shifts have led to substantial price and margin erosion and significant customer churn. As voice becomes a commodity service, service providers must slash expenses and simplify operations to remain profitable and agile. Forward-looking providers are migrating next-generation voice delivery to the cloud to eliminate cost and complexity.

New cloud voice platforms (CVPs) let service providers launch or evolve voice services, quickly and cost effectively, while maintaining strict control over branding, pricing, and customer service. CVPs provide a clear business case for voice by eliminating infrastructure, coupling investments with revenues, and allowing service providers to focus precious capital and engineering resources on more strategic initiatives.

The Power of Voice

Voice remains an essential service offering and a substantial revenue source for service providers. Undoubtedly, the fixed line voice market is in decline, but it remains essential to winning customers and there are pockets of growth opportunity addressing business services.

There is still plenty of money to be made in voice. Despite customer attrition and price erosion the fixed-line voice market remains massive for both residential and business services. According to Gartner the combined North American fixed-line voice market approached \$80 billion in 2013. And subscriber churn is projected to level off; Gartner projects that annual residential voice subscriber turnover will be under 1 % for the remainder of this decade.¹

There are also ample revenue opportunities in hosted VoIP and unified communications (UC) services. Infonetics projects the North American market for hosted VoIP and UC business services to reach \$ 5 .6 billion in 2016 growing at an 18% CAGR.²

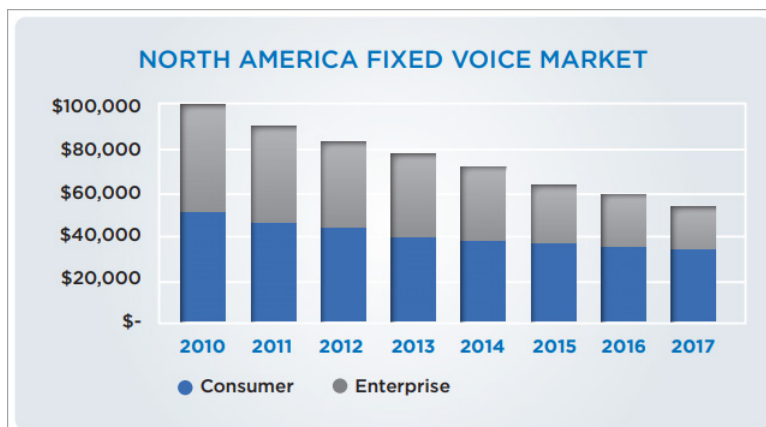


Figure 1:
North American
Fixed Voice
Service Market
(Gartner)

Voice Remains Essential for Future Success

Voice will continue to play an important role for the foreseeable future as cable MSOs, ISPs, and telcos increasingly rely on bundled service offerings to attract and retain subscribers. Digital TV Research projects worldwide annual triple-play revenues to increase from \$64.4 billion in 2012 to \$144 billion in 2018,³ at which time multi-play packages are expected to account for 86% of all subscription revenues in that year.

Going forward, voice will remain an essential bundled service ingredient. Operators must continue to offer voice services to remain competitive. But they need to rein in voice infrastructure and operations costs to remain profitable. Voice is becoming a check-list feature that is part of a multi-technology service bundle versus a standalone subscription service. The cost to deliver voice must be in line with that reality.

Changing Market Dynamics

New technologies, shifting user demographics, and evolving user habits are profoundly impacting traditional telecom operators. Mobile service providers offer unlimited calling plans. Most telcos and cable multiple system operators (MSOs) bundle voice with broadband Internet and television plans. And over-the-top (OTT) providers offer low-cost (or no-cost) international calling capabilities.

In the consumer world, the telephone call is a secondary means of communications for an entire generation of users who grew up with cell phones, Facebook, and Skype and prefer text messaging, social networking and video chats. In the business world, PBX phones are collecting dust as employees turn to smartphones and new unified communications solutions that blend voice, video, and media sharing.

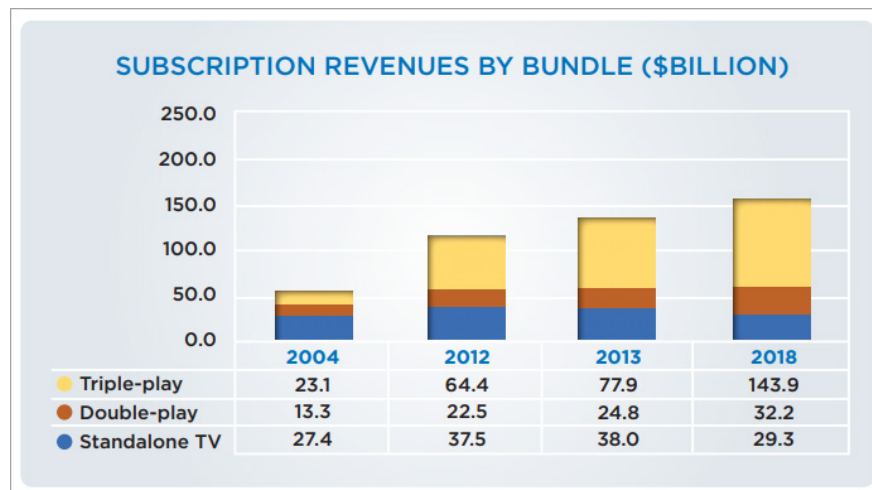


Figure2:
Global Cable
and Fixed
Line Service
Revenues

Mobile services, VoIP, and OTT messaging have fundamentally transformed the telecommunications industry and permanently disrupted traditional fixed-line business models. More than one-third of U.S. households now rely solely on mobile phones.⁴ Skype is now the world's largest international voice carrier. And instead of leasing PRI circuits, enterprises now use corporate MPLS networks for internal calls and SIP trunks to connect to the PSTN.

The regulatory landscape is shifting as well, providing an uncertain future as to subsidies, fees and compliance requirements. Given these dynamics, it is increasingly difficult to build a solid business case for building a new voice network or even run the existing one.

Next Gen Voice Infrastructure is Complicated and Costly

Service providers must adapt to the new realities of the 21st Century. As voice becomes a commodity, the old ways of doing business are no longer viable. With declining margins, many operators can no longer afford to build and maintain their own voice networks. To remain competitive they must focus on increasing voice efficiencies, addressing growing market segments and building customer relationships. To deliver voice must be in line with that reality.

Usage is declining, yet the cost to run that network remains the same due to supplier contracts, vendor maintenance fees, operational and support staff along with minimum CAPEX to replace parts and deal with feature upgrades. Fewer subscribers and minutes of use combined with the same cost structure means that the per-subscriber costs are on the rise. This results in voice margins that are further compressed from the bottom as well as the top as ARPU declines.

Aging TDM voice networks and first-generation VoIP networks are increasingly expensive to operate and difficult to cost-justify. Operators are held hostage to costly maintenance contracts and are vulnerable to CAPEX-intensive end-of-life programs that promote vendor lock-in, disrupt operations, and yield unacceptable investment returns.

Building a next-generation VoIP network is not a feasible option for many service providers. IP Multimedia Subsystem (IMS) networks represent a significant departure for operators of TDM or early VoIP networks. And they are simply beyond the financial reach of many service providers from a CAPEX and OPEX perspective. A complex web of systems, vendors, and interfaces, IMS networks are notoriously difficult and expensive to design, implement, and operate. (See Figure 4)

Significant investment is spent on buying and then deploying an application that will be outdated in a few quarters or years. Some companies skip upgrades as the deployment model is not sustainable nor affordable; they pay the annual maintenance fees and do not benefit from the innovation created during that time period.

Voice will remain an essential bundled service ingredient. Operators must continue to offer voice services to remain competitive.

Project Risk

Large scale IT projects like building a next generation voice network are inherently risky and unpredictable. According to the Standish Group, only 39% of all IT projects are delivered on time, on budget, and with required features and functions.⁵ The vast majority of projects are late, over budget, lacking required features or cancelled altogether. The Standish Group also found that projects were significantly more expensive and took longer to build: cost over-runs averaged 159% of original budgets and projects took 74% more time on average than originally scheduled. CTOs and CIOs are turning to the cloud to remove uncertainty and reduce costs. By leveraging the experience and resources of a trusted cloud provider, businesses can streamline projects, eliminate CAPEX, and focus engineering talent on executing new growth initiatives rather than managing IT infrastructure.

Opportunity Cost

Most importantly, investing in a next-generation voice network diverts capital and human resources from core business initiatives. As investment is focused and spent on the voice transition, other strategic initiatives with potential for high growth/differentiation are left behind or underfunded.

High-speed broadband is a perfect example. An Analysys Mason survey⁶ reveals that customers who take higher-speed broadband services are both more satisfied and less likely to churn than those with lower-speed services. The analyst firm believes offering superfast broadband speeds to all customers could reduce annual churn rates by three percentage points per year.



The Cloud is the Answer

Many service providers would be better served by what Gartner has come to call cloud sourcing in order to contain next-generation voice cost and complexity. Organizations of every size and industry are deploying cloud-based services to eliminate capital expenses, mitigate risks and improve business agility. Gartner projects the global public cloud services market to exceed \$200 billion by 2016.

Service providers can leverage the cloud to power their voice services and instead strategically investing in high ROI initiatives that will set them apart and drive revenue in the all-IP age.

The Top Three Barriers to IMS:

- Capital Expenditures
- Business Case
- Total Cost of Ownership

Cloud Voice Platforms Eliminate Cost and Complexity

A new option has emerged that eliminates many of the costs and risks associated with building a next-generation VoIP network: the cloud voice platform. The cloud voice platform is an evolutionary leap beyond networks based on vendor gear and radically different than previous generation reseller programs based on antiquated infrastructure cobbled together from multiple vendors.

Cloud voice platforms bring all the benefits of the cloud to the telecom world. By cloudsourcing next-generation voice services, operators can avoid expensive voice network upgrades, contain network operations expenditures and concentrate on more strategic business endeavors.

The cloud voice platform is specifically conceived to help service providers reduce cost of ownership, provide better service agility and build a high-margin, low-risk business case for VoIP. The CVP name captures the solution's unique characteristics:

Cloud - all the disparate functions and elements that a service provider normally needs to buy, build, and operate (session border controllers, session control softswitches, feature and media servers, fraud prevention systems, billing support and provisioning servers) are hosted in a scalable, reliable, and secure data centers and fully managed by the CVP provider.



Voice - a CVP provides a wide range of residential and business voice and unified communications features that can be delivered over any broadband network.

Platform - the solution is delivered as a turnkey, customizable wholesale offering that supports flexible service packaging options (service providers have complete freedom over feature bundles and prices) and efficiently integrates with back-office systems.

The sourcing and implementation of the technology, the operations and monitoring of the voice network, and all carrier interfaces and interactions are managed by the CVP. Using established providers for transport, telephone number inventory, PSTN connectivity and regulatory compliance, the CVP enhances traditional wholesale voice offerings or a service provider's own transport infrastructure.

A CVP is fundamentally different than traditional hosted or white label programs. Many hosted service providers and wholesalers cobble together solutions using disparate hardware-based telephony systems. These fractured solutions are inflexible, difficult to manage, and inherently costly. The overhead is passed directly to the customer in the form of high monthly service fees. These monolithic architectures are too costly and inflexible for today's dynamic service environments.

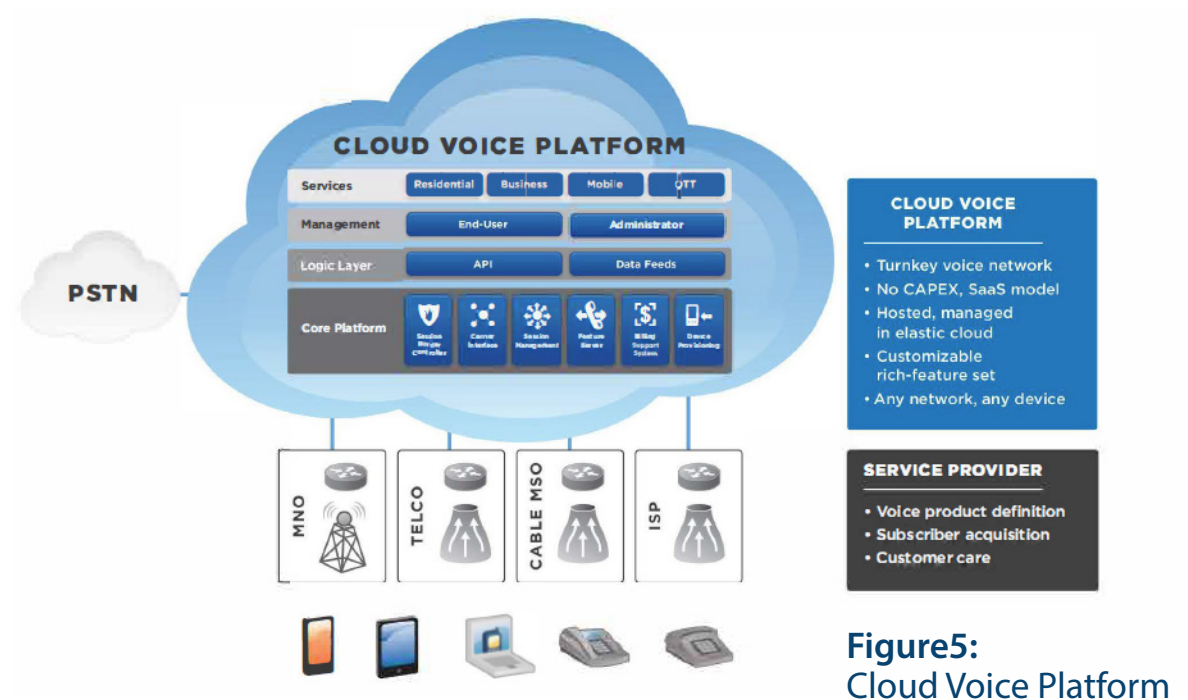
By contrast, a CVP is a contemporary software-oriented system that leverages industry-standard servers and virtualization solutions for superior economics and flexibility. CVPs eliminate equipment and data center cost and overhead by virtualizing network functions onto dense multi-core servers. What used to require thousands of square feet of data center space with massive cooling and power requirements can now be achieved in less than hundred square feet of space with fewer environmental demands. The savings are passed directly to the service provider in the form of lower total cost of ownership (TCO).

Using a cloud voice platform, service providers can leverage network functions virtualization (NFV), platform as a service (PaaS) and cloud elasticity, without the significant capital investment and organizational distraction of building the next network on the latest technology. By pooling resources and virtualizing network functions, CVPs are able to exploit economies of scale (host multiple tenants per server), simplify business continuity and disaster recovery (migrate tenants across servers and data centers), and boost service agility (provision tenants, features, and capacity on-demand).

Cloud voice platforms also reduce operations and management costs and complexity. They provide integrated Web-based management portals and Web services APIs that simplify automation and enable rapid integration with back-office systems so service providers can maintain control over billing, provisioning and customer service.

Best of all, CVPs enable true pay-as-you-grow SaaS (Software as a Service) financial models that eliminate upfront commitments and tightly align costs with revenues.

Cloud voice platforms transform the VoIP business model and remove risk



The Cloud Voice Platform Transform the VoIP Business Case

Cloud voice platforms significantly reduce the time, capital, and human resources required to introduce and support next-generation voice services. By leveraging the cloud for service delivery, operators can:

Eliminate CAPEX - eliminate expensive VoIP equipment and costly next-generation network build-outs.

Reduce OPEX - outsource network operations; avoid equipment operating expenses (space, power, cooling) and vendor management hassles.

Remove Investment Risk - eliminate upfront capital outlays and leverage a SaaS business model that aligns expenses with revenues; avoid underutilized assets, lopsided business cases, and long payback periods.

Accelerate Time-to-Market - leverage the experience and infrastructure of a trusted cloud provider to rapidly launch new services or transition to next generation solutions.

Increase Service Agility - enjoy access to scale from day one without the upfront expense and benefit from continuous innovation and feature development delivered in the cloud.

Focus on Business Innovation - free up capital budget and engineering staff for core business tasks and high-impact strategic initiatives.

Preserve Service Quality and Customer Satisfaction - cloud services are inherently secure, scalable, and reliable; service providers maintain full visibility and control over the subscriber experience.

Avoid Obsolescence - break vendor dependencies and avoid regular expensive qualification and implementation cycles to replace end-of-life gear.

Cloud Voice Platform Solutions

CVPs Address a Wide Range of Applications and Scenarios Including:

- **Greenfield Voice Launch** - introduce new hosted residential and business VoIP services
- **Market Expansions** - cap legacy voice networks and launch services for new regions or market segments
- **Circuit to Packet Migration** - decommission legacy TDM networks and rapidly move to VoIP for superior functionality and economics
- **VoIP 1.0 Replacement** - replace costly or end-of-life first-generation VoIP-based networks and solutions
- **Merger and Acquisition Consolidation** - retire redundant multi-vendor networks and deliver voice services from a universal platform

Conclusion

The commoditization of voice poses a dilemma for service providers. MSOs and fixed-line operators must upgrade aging voice networks to remain competitive, but run the risk of deriving little or no return on their infrastructure investments. To succeed in today's market service providers must identify innovative ways to reduce costs and restore margins without sacrificing features or service quality.

Cloud voice platforms are emerging as the way forward. This new wholesale VoIP solution delivers all the functions and components required to monetize voice, in the form of a highly scalable, reliable, and cost-effective cloud-based service. By cloud sourcing next-generation VoIP, service providers can avoid capital expenditures, simplify operations, and enhance profitability. Cloud voice platforms let service providers focus on growing the business instead of building and managing a voice network.

1 Source: Forecast: Consumer Fixed Voice, Internet and Broadband Services, Worldwide IQ/3 Update

2 Infonetics Research, VoIP and UC Services and Subscribers, March 2012

3 Digital TV Research, November 2013

4 2012 National Health Interview Survey

5 Standish Group Chaos Manifesto 2013

6 Analysys Mason, July 2013

Additional Resources

Whitepaper: [Cloud VoIP Outsourcing](#)

Case Study: [Turn-Key Digital Voice Service](#)

Webinar: [Revenue Opportunities with Commercial Voice](#)

For more information read our [Residential VoIP Product Sheet](#), [Commercial VoIP Product Sheet](#) and [visit our website](#).



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