Legacy OSS/BSS & Next-Gen Networks

By: [Jay Meranchik](#)

Years ago, telecommunications carriers embarked on a major network transformation that completely changed the way that carriers operate and perform on a day-to-day, call-by-call basis. Known as the next-gen network, it was filled with promise—and in almost every way it has delivered. The convergence and widespread adoption of VoIP-based technologies and the introduction and evolution of the Session Initiated Protocol (SIP) has resulted in a telecommunications network that looks like and acts nothing like its predecessor, the Public Switched Telephone Network, or PSTN.
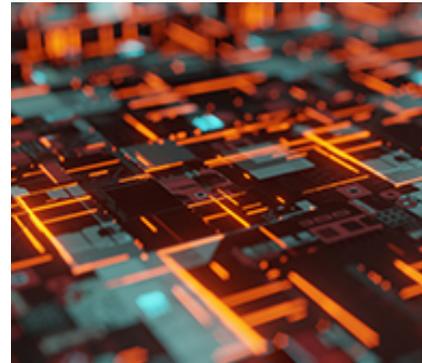
If there are PSTN networks still working totday, they are operating at a significant performance and management disadvantage to the next-generation SIP-based networks.

So, is the industry done? Is 2021 the year the industry declares our emergence into the next-generation network world?

Not quite. There is still one area of a telecommunications service provider's network that needs to complete the evolution. It's not the switches, the SBC, the application or feature servers. It's not the billing, the provisioning or subscriber management systems. It's more obscure than these obvious systems—and it's constantly overlooked and underinvested in.

We're talking about the legacy OSS and BSS systems that deal with aspects of voice services. Candidly, service providers struggle to reinvest in and prioritize these legacy systems. And the most notable of all is the interconnect voice management platform.

A bit of history

The interconnect voice management platform OSS and BSS system encompasses all the applications and processes that a voice service provider employs in the day-to-day, week-to-week, month-to-month management of the voice traffic that originates on to their network from a foreign network or exits their network to be terminated "off-network." This applies to wholesalers, retailers, OTT, conference-calling providers, application providers, and more. "More" can include any company that is in the business of providing voice-based calling services and needs to have the ability to support calls that originate or terminate "off-net."

The interconnect voice industry has been around for a long, long time. In 1996, when the U.S. passed the landmark Telecommunications Act, everything changed. This, plus the introduction of VoIP, led directly to the creation of new technologies and what business schools now refer to as "creative destruction." New technologies and new business models completely shattered the old ways of doing business. Ma Bell was gone; now competition and hyper-competition were introduced, invited and supported.

The results of this revolution reverberated across the industry as hundreds, if not thousands of new companies were formed. VoIP became embraced as the new technological standard and telecommunications carriers scrambled to invest billions of dollars to transform and evolve their networks.

Evolution...or revolution?

The next-generation network evolution—or revolution—had begun.

As companies were investing billions in the new technology, they were scrambling to figure out how to change their business and operating models and leverage the new technologies to their benefit. This turned out to be much harder than they realized as the traditional ways of doing things had been established for decades. The new operating and commercial models pushed companies in ways they didn't expect and therefore they were unprepared to respond and thrive within. Carriers had limited their focus to the "switching" technologies that VoIP, and eventually SIP, replaced—when, in reality, VoIP and SIP made the entire universe of a telecommunications carriers' network and operations a holistic platform that required all parts to evolve.

This meant that OSS and BSS—billing, provisioning, subscriber management, credit management, pricing, rating, accounting and all the supporting systems to a carriers' actual voice network—needed to evolve in order to capitalize on and leverage the benefits of the next-generation network.

As carriers began to realize that the investment required was beyond their original forecasted scope, they reprioritized activities. They began to invest in not only next-generation network

components but also the next-generation support systems that were needed. As a result, carriers made massive investments in subscriber management, provisioning and billing systems. CRM systems evolved rapidly and today, they are some of the most technologically advanced and largest-scale customer management tools in the world. Unfortunately, this work lost momentum when it came to the interconnect voice management platform. As a result, in far too many voice carriers' operations, legacy tools, systems and processes are being used to manage a hyper-competitive, dynamic, next-gen network-based component of a carrier's business. And lest anyone needs a reminder, the interconnect voice industry is an enormous industry: trillions of voice minutes, culminating in hundreds of billions of dollars annually to the industry. And many of the participants are using 1990s technologies to manage their piece of this giant "pie!"

This is kind of crazy, especially because there are solution providers that have been building, deploying and refining interconnect voice management solutions that are, at their core, next-gen-network native. By this, we mean that they were built and designed to work with and leverage the capabilities of the next-generation network—and do so seamlessly. As a result, they provide enormous value and competitive advantages to the carriers who are using them.

The next-gen piece of the puzzle

These next-gen interconnect voice management platforms incorporate all the functions that are required in order to perform the day-to-day functioning of off-net call processing. These are enterprise resource platforms (ERPs), that are specifically designed to meet the needs of carriers in the domain of interconnect voice management. These include supply chain management, call detail record processing, reporting, analytics, call routing, pricing, invoicing, credit and finance management, quality of service, performance management, and much more.

At the core of these next-generation interconnect voice management platforms is the real-time intelligence. The domain of functions previously listed are no longer discrete separate functions. They are integrated holistically as if they were all sides of a multi-sided coin. Call routing, for example can take in quality information, network performance information, credit information, pricing information, vendor contract information, and more and "crunch" all this data in real time to determine the most optimal route for a call at that particular moment in time. Carriers can fully optimize how they receive and manage the calls that enter and leave their network from a business, quality and network perspective.

The value that these systems provide carriers cannot be overstated. Not surprisingly, the interconnect voice operations of any medium-to-large carrier can place large financial burdens and operating complexity on a carrier. This leads to poor performance and, among many carriers, a desire to shed this piece of their business and back-office operations. Unfortunately, this is usually an impossibility, as managing calls in and out of the network is part and parcel of being a voice service provider. From AT&T, to Comcast, to Verizon, to DT, to be in the business of providing voice services requires a carrier to manage their off-net calls. Even pure-play

application providers such as Twilio and Vonage have to figure out how to manage the management of voice calls—and they don't even own a network per se.

A necessary investment

The reality is that it is time for voice communications providers of all sizes—but particularly the larger ones—to make the investment and upgrade their interconnect voice management platforms to next-gen-designed solutions. This is the plumbing that is required in order to succeed at offering voice-based services to large, diverse markets. Carriers should recognize this and make the necessary investments to facilitate adoption and implementation of just such a platform.

The need is ubiquitous across the different verticals of the voice telecommunications industry and the need is real. If you do not have a SIP based, real-time interconnect voice management platform or if you are using multiple applications and swivel-chair work to complete the day-to-day tasks of your off-net call management, then you are spending more than you need to and are operating at a competitive disadvantage. Your total cost of ownership (TCO) is higher than that of your peers and your competitors.

The market opportunity is creating pressure, too. According to Global Market insights, the global wholesale marketplace is estimated to grow to over $46Bn by 2026. But this doesn't reflect the true scope or size of the interconnect industry. When you add in the growth of non-traditional telcos and application enhancement technologies (voice-calling-enabled applications), which GMI is forecasting to grow to over $95 billion, you see the true need for the investment.

At GCS, we have been delivering our Interconnect Command Platform (ICP) worldwide since 2008. Today, ICP is deployed around the globe in carriers' operations, including with iBasis, Comcast, Bell Canada, Vonage, PTGi, C3NTRO, Windstream, Frontier, and more. Our patented, dynamic routing engine is based purely on a SIP-based architecture that provides real-time policy adjustment based on critical business and network performance data in real time. Voice interconnect management is often overlooked, but next-gen networks need next-gen OSS and BSS – and voice interconnect is an important piece of the puzzle.