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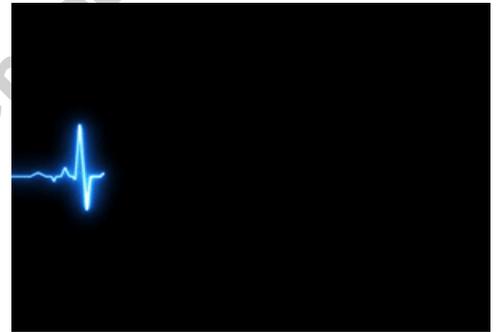
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## Telco in a Box

### Telco-to-Techco Transformation

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By most accounts, telcos have been failing. Not fast enough to die, but just slow enough not to. And that's quite a remarkable feat in the wake of the monumental shift to ecommerce and streaming services, an insatiable appetite for 4G/5G, a global pandemic that created a mandatory demand for global connectivity, and billions of connected devices coming online at the same time - *when telcos own the pipes that make it all possible.*



Despite the abundance of opportunities, the growth of connectivity services was stagnant from 2018 to 2021, and is only projected to grow at the modest rate of just 1 to 3 percent ([Bain & Company/IDC](#), [Omdia](#)) through 2026, while Capital Expenses (capex) and layoffs ([Omdia](#), [IEEE](#)) are projected to progress at the same time. One might wonder, are telcos trying to fail? No, we don't think so, but that doesn't mean they won't.

## Telco to Techco Transformation

In May 2021, Accenture and TM Forum published a report titled "[The Tech-driven Telco](#)," which seems to have given rise to the term "telco to techco" transformation. Since that time, TM Forum has continued to push the [concept forward](#) with an [iterative whitepaper](#) and [report](#) in support of its [Open Digital Architecture](#) initiative. Today, it seems just about everyone has hopped onto the techco dance floor, including [Oracle](#), who was later [featured in Forbes with Vodafone](#) in July of 2022 on the topic, followed by [e& Group/Mckinsey & Company](#) and [Ericsson](#), [Netcracker](#), and [KPMG](#). Of course, it's been well covered by [Pipeline](#). In fact, it was still a persistent topic at [Mobile World Congress](#) this year. It's as they say, necessity is the mother of invention.

To remain relevant, telcos must reinvent themselves. But when you peel back the onion layers of telcos stagnation, it reveals three obvious obstacles to transformation: culture, cost, and commoditization. From a cultural perspective, many telcos are mired in being a network-technology company if not an outright phone company (read, utility). To make matters worse, it's really, really hard - and costly - to compete, as the next best network technology doesn't come cheap. In the aforementioned report, [Omdia cites](#) network investments in 5G and fiber as key factors stifling global

telco growth. At the same time connectivity, and the network itself, has become a commodity, and cost is the death note for commodity businesses (think oil, gold, copper, corn, etc.). The commodity business model isn't necessarily bad business. But to succeed as a commodity business, telcos must fully embrace the commodity model and squarely focus on cost reduction and achieving greater efficiency through automation - such as artificial intelligence (AI) - to provide a better and unique customer experience (CX) that attracts and retains more customers. Or to make the shift to growth and innovation, they must abandon the commodity mindset altogether, and all three obstacles - culture, cost, and commoditization - must be overcome. But the first step to recovery is acceptance, and some telcos are still stuck in serious denial.

## Rays of Hope

Some telecom service providers, on the other hand, are seizing the opportunity to transform and even reinvent the notion of what a telco is. *Pipeline* recently had the opportunity to meet with one, Contrivian. Contrivian is a new enterprise-focused Communications Service Provider (CSP) that provides access and connectivity services to multi-regional and multinational enterprises - including dedicated internet access, broadband, cloud connectivity, LTE, satellite, and more. We were also joined by two of its technology partners: Connectbase, an award-winning platform provider that is transforming how global network and connectivity services are bought and sold; and CloudSmartz, an award-winning unified experience platform provider that is consolidating the underlying Operational Support Systems and Business Support Systems (OSS, BSS, collectively B/OSS) technologies to streamline and automate network management and service fulfillment to provide a superior CX.

Contrivian launched as a greenfield CSP with a vision to reimagine how enterprise-grade connectivity is delivered, putting customer experience front and center. From an enterprise perspective, network connectivity has never been more important, or complicated. But together, Contrivian with its partners CloudSmartz and Connectbase, were able to launch a CSP from scratch in under six months - providing a single source of truth for the full network-services lifecycle - to deliver enterprise-grade connectivity services to customers in near real time, with a superior experience. Something well positioned as "Telco in a Box."

"Somewhat ironically, enterprises cannot buy enterprise-grade internet connectivity on the internet," Founder and CEO of Contrivian, Grant Kirkwood, told *Pipeline*. "The traditional connectivity buying process takes months of conference calls, planning, quoting, and negotiating before you can even begin to think about design or delivery - when enterprises today need a choice of connectivity options delivered in near real time to keep up with modern use cases." Today's consumers are used to click-to-buy ecommerce experiences, yet largely telecom has failed to deliver this experience to its enterprise customers, who need it now more than ever.

Take, for example, the case of video conferencing companies such as RingCentral, Microsoft's Skype or Teams, and Zoom. They all must provide the best quality connection and experience, at the lowest cost possible, and in real time. Or think about the healthcare industry, where a manufacturer of cloud-connected Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) scanning equipment needs both fiber connectivity and cloud onramp for the transfer, processing, and analysis of dozens of gigabytes of image data, when lives are literally on the line. The legacy model simply doesn't work.

"Contrivian is working with a manufacturer of CT and MRI equipment now, and the files are massive. For example, one DICOM file could contain as many as 10,000 images and contain 1 terabyte (TB) of data or more," commented Kirkwood. "Relying on traditional internet connectivity, the file transfer alone can take hours and even longer before analysis can begin. There is also a fundamental shift underway now to store these data in the cloud, to enable AI analysis to identify health risks that human eyes may have missed. But the data has to get there first, and we're reducing that time to just

minutes.” In an emergency-room scenario, this can make the speed and quality of connection literally the difference between life and death.

Future healthcare use cases go even further. Computer-Aided Design (CAD), three-dimensional (3D) modeling, combined with AI and Augmented/Virtual Reality (AR/VR, collectively XR) headsets is opening the door to new scenarios where doctors can immerse themselves in and interact with images with an AI assistant to help them detect anomalies. Think [Minority Report](#) for doctors, minus the PreCogs. It might sound farfetched, but this healthcare transformation is already well underway ([Forbes](#), [European Congress of Radiology](#), [EurekAlert!](#)). These new use cases will require better and faster connectivity with near-zero latency. And transformation isn't just happening in healthcare, companies such as [Hololight](#) and [GridRaster](#) are making XR plus AI transformation a reality across construction, engineering, and more. Not necessarily good news for telcos, who will have to invest more in network technology to capitalize on opportunities like these.

## Making it Possible with Telco in a Box

Together, the three-company collaboration has done what some may have thought was impossible, enabling the telco-in-a-box model - from scratch - in less than six months. Contrivian started out with a vision to reimagine the telco model by eliminating the complexity and overhead associated with traditional telco operations to rapidly launch, scale, and better serve these emerging use cases for real-time connectivity. CloudSmartz provides the unified platform to harness the power of B/OSS, automate service fulfillment, and open the door to other AI innovations. By combining the strength of the Acumen360 platform from CloudSmartz with the global service presence and location truth of Connectbase, the NorthStar platform was launched.

“Think about a service provider or data center that is providing mission-critical connectivity services,” added Matthew Ray, chief marketing officer of CloudSmartz. “Not only can they seamlessly consolidate and automate their existing B/OSS functions into our Acumen360 platform as a horizontal overlay, but they can also integrate information from third-party systems such as the Connectbase ecosystem to extend reach and obtain location truth, as well as systems that support geopolitical data, weather data, and AI analysis to predict, prepare for, and prevent related outages - or visualize opportunities.”

Connectbase provides the global connectivity inter-exchange platform to evaluate and automate the connectivity layer based on a multitude of regional, quality, price, and service factors. These data points are then provided to Contrivian's North Star real-time decision engine where machine-learning algorithms make design and pricing decisions in near real time, which are then fulfilled using the CloudSmartz Acumen360 platform.

“It's really about redefining the way we think about the incremental value telecom providers can provide to a growing ecosystem of diverse suppliers,” added Ben Edmond, founder and CEO of Connectbase. “Today, network connectivity is no longer just about proximity, but incorporates myriad of other factors including network type, network performance and service-level metrics.” In fact, Connectbase's global connectivity platform catalogs nearly 20 different attributes for over 2.7 billion locations worldwide and growing.

Over-the-top decision engines, like Contrivian's Lighthouse technology, use global connectivity data attributes provided by its on-premise gateways and strategically placed internet beacons to measure performance and make intelligent routing decisions in real-time. At the same time, the B/OSS complexity and functionality is being consolidated and automated through the North Star platform, utilizing the Acumen360 unified experience platform from CloudSmartz and Connectbase's location-truth data. Together, the collaboration is reinventing the telecom model by seamlessly integrating

complicated systems and functions, and then innovating with automation to provide the digital experience required by today's enterprise customers.

## Remaining Relevant

Telcos have the opportunity, once again, to capitalize on the drivers, innovation, and opportunities that lie ahead. They have two paths ahead of them, one of remaining a simple commodity, connectivity/network provider where driving down cost while providing a superior experience is their only hope. The other, is to truly innovate and create compelling new use cases, such as the ones mentioned above to sluff off the network-commodity mindset and become a growth and innovation engine, which is the heart of the growing telco-to-techco transformation movement.

The world continues to transform as the demand for and reliance on connectivity grows at an unprecedented rate. Generative AI, cloud, SD-WAN, and XR are just a few of the drivers. Just to keep up, service providers will need an off-the-shelf, telco-in-a-box model like the one that has been assembled by CloudSmartz with its strategic partner, Connectbase, to enable innovative companies like Contrivian to maximize efficiencies and provide a superior CX. However, to remain relevant, telcos will need to create compelling new, innovative offerings to create and support future use cases. Otherwise, they'll be left in the dust, once again, by those who are able to innovate on top of their hard-earned network investments.

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