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Last Call for Telcos

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A series of recent announcements are signaling a fork in the road for telcos: maintain business as usual or embrace innovation. While change won't happen overnight, the decisions made now will determine the future course for telcos.

Maintaining 'business as usual' condemns today's telcos to a shrinking social and economic role. Clinging to legacy processes, procedures and thinking will see the hyperscalers and other competitors cleave off the majority of the network and all of the profitable business. The alternative is for thought leaders in the telco industry to lead development of new processes and procedures that enable telcos to develop productive innovation ecosystems within which they can act as intelligent consumers. This will open the door to a strong and growing social and economic role.

A trigger for telco innovation

For decades there has been talk of disaggregation in the telco industry. This has led to a lot of handwringing about OTT ("over the top") companies and missed opportunities for additional profitable businesses. But now the hyperscalers are moving down into the core telco infrastructure and the most profitable lines of business.

Recently, Google made two significant announcements. In the first, it said that in cooperation with Nokia and Intel, Google would provide the complete digital portion of cellular infrastructure at each of its caches. Caches are points of presence from which Google and others deliver low

latency services. In the announcement, Google said that it had caches in over 3,000 locations. But industry sources tell me that it actually has approximately twice that number—and it's growing.

The two companies are already testing providing the DU (Distributed Unit – neighborhood digital portion of 5G basestation) and CU (Centralized Unit – metropolitan digital portion of the 5G basestation unit) functionality currently being defined by O-RAN. This would leave only the RU (RF Unit, sometimes called the radio unit or radio head) clearly inside a telco.

Google is not alone. AWS, Azure, Equinix, and others are on the same path.

If, as is highly likely, these hyperscalers can offer cellular infrastructure as a service at a price that is lower than the current cost incurred by telcos operating their own cellular infrastructure—and cellcos don't innovate to dramatically lower those costs—around 80 percent of today's cellular infrastructure could shift to hyperscalers.

The second Google announcement was of a deal with Cisco—and it's not the only one. Others are striking similar deals. In this arrangement, enterprises would be able to order an edge router or other SDN product configured to operate directly with Google's infrastructure. Here again, if, as seems likely, Google can offer a lower-cost service to enterprises than telcos currently can, the very profitable telco enterprise business is at risk. If the telcos don't innovate in enterprise service quality and cost, they stand to lose one of their most profitable lines of business.

A friend at Google was discussing the telco innovation problems with me many months before the above announcements. He said, "When AT&T is dead and being buried, Google will be standing over the grave holding a gun." During his long career, he has been repeatedly frustrated by the lack of telco innovation, which sparked the emotion in his comment.

As a company, Google needs low-cost, easy to use, reliable ways of reaching its services. If the telcos can provide this at reasonable cost, Google (and others) will be happy to use it. But what companies like Google see is a growing gap between what is possible and what is available from telcos. This gap is caused by a progressive decline in telco innovation that motivates them to move into the space.

Until recently, there have been two significant barriers to entry for new competitors into the telco space: proprietary APIs and spectrum licenses. Ericsson and Nokia have claimed that the APIs in their infrastructure products are proprietary and that no product can legally access those APIs without a license from them. Furthermore, they withheld such licenses. Recently, the US Supreme Court ruled in a case between Google and Oracle that the use of such APIs without a license is legal, thus effectively removing this barrier.

The other barrier to entry is financial. It involves the purchase of spectrum licenses. The telcos have been able to outbid the hyperscalers in the spectrum auctions because the telcos have access to less expensive capital. This lower cost of capital is based on the financial markets'

perception that telcos are very low-risk businesses. If and when the financial markets recognize that the disaggregation and hyperscaler cream-skimming is removing large portions of the telco business, this advantage could disappear. Meanwhile LEO (low-earth orbiting) satellite operators have found a way around telco terrestrial spectrum licenses. So, this barrier to entry is weakened and may be coming down.

Telcos have advantages

Not all is doom and gloom. In today's world, there are two things considered extremely valuable: monthly recurring revenue and sticky customer relationships. Telcos have both. In fact, the aaS (as-a-Service) model was, in a way, invented by the telcos. At the same time, telcos have what in the past has been a sticky business relationship with an extremely high proportion of the organizations and individuals in the world today. These are key strengths. Additionally, the telco business model when supported by an innovation ecosystem that leverages synergies with the hyperscalers has significant benefits for society.

Challenges and opportunities

Organizations have deeply ingrained mechanisms to establish and maintain an identity. These consist of policies, procedures, ways of thinking, and cultural aspects that serve to make the organization appear the same from day to day. This is important in business relationships, because in many circumstances, it builds confidence in customers and suppliers. In a world where there is a lot of change, but underlying structures remain stable, this lets customers, suppliers and investors make comfortable predictions about future actions and responses. For example, in the way the financial markets have perceived telcos in the past. However, in a world now undergoing structural change this stasis can be very dangerous.

For example, Western Union was a very successful business for more than a century. In the 1970's it had a very large and profitable network providing Telex services (15 and 20 Baud-speed Baudot code to paper-tape-based large mechanical teletypewriters). When 30 BPS ASCII dial-up modems appeared, Western Union said, "We know what to do. We will make a 30 Baud Telex service." In a few years, Western Union's network disappeared, and the company retreated to a small financial niche.

Later, a man in Chicago saw that the pager business was going to be technologically left behind. He went around buying up pager businesses on the cheap and integrated them to cut costs. He made a personal fortune milking them to their end of life.

Another man in Seattle saw the same thing. But he used the pager businesses as a foundation for a new technology that was appearing. This technology was cellular. His name was Craig McCaw. The company he built, McCaw Cellular, was sold to what became AT&T, is still the operational hub for AT&T, and was a much bigger financial success.

These three stories illustrate the choice that telcos face today:

Plan A. Use the current telco model as a foundation for innovation that leads to a vibrant future.

Plan B. Prepare to milk the existing telco model as it declines.

Plan C. Retreat to a financial niche.

In private conversation after the Google announcement discussed above, a leader of one of the leading companies in the industry said that the announcement marks the beginning of the last chance for today's telcos. Essentially, he was saying that telcos must now start on Plan A or events will force them into Plans B or C. Today's action or inaction will determine the future course.

Change and crisis

Moving from a monoculture based on a very small number of incumbent vendors that make all your infrastructure decisions for you, to being an intelligent consumer in a vibrant ecosystem consisting of a variety of innovators ranging from large companies to small start-ups, can be challenging. Sometimes it takes a crisis to overcome such a challenge.

For example, take author Yutaka Kuroda, Managing Director, Cardinal Consulting International. His book *Why Japanese Companies Cannot Perform with Full Capability* said that Japanese people were creative and innovative, but Japanese companies had structural barriers that prevented innovation. Thus, Japanese companies should actively work to remove those structural barriers, or they would slowly slip into a back corner of the global economy. The response to the book from people inside those Japanese companies was, "You are absolutely correct. We should make those changes. But it will never happen in my company." Now, with the pandemic keeping people working from home, some Japanese companies are finding that they can make these changes. This is an illustration of crisis propelling us over a challenge.

The hyperscalers' actions are precipitating the crisis that triggers telcos to move to a culture of being an intelligent consumer in a vibrant innovation ecosystem that they foster. The window of opportunity is open. But if action is not taken now, it will close quickly.