Telcos Must Move to a Modern Data Cloud

Most telecom operators have been in business for many years and as a result have many disparate systems scattered across the organization. These include front end system that run the networks, as well as back end systems that take care of customer engagements and billing. But as most telcos well understand, they can't continue to run old style systems that were built in some cases decades ago and that stand alone without the data integration necessary to fully understand the total business operations. They must, and in most cases are moving to a modern cloud based environment that enables a multi-faceted view of all the systems that interact with the customer, as well as internal systems required to fully optimize the network operations.

While Digital Transformation has generally taken hold, it's unlikely that all systems can be migrated quickly or easily. Indeed, we expect the journey for many to take at least 3-5 years, and for some systems even longer. It is therefore imperative that the telcos find and update the most critical systems first and then move on to the other systems, to implement a single data processing and insights gathering capability for all corporate data. The journey from a legacy big data storage capability which some have implemented, to a complete data management and processing platform is not always easy or done quickly, but nevertheless is imperative if companies are to stay competitive.

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An example of one company's journey is that of MTN based in South Africa. With over 300M subscribers and 50M financial transaction customers, MTN needed to define a path towards transformation. They wanted to provide their customers with more value for the money, as well as provide better privacy and governance of all data collected, particularly as regulations vary across the multiple countries in which they operate. Because some countries have data residency requirements, MTN has enabled a hybrid cloud infrastructure using Google Cloud Platform tools. To transform and modernize, MTN changed from running independent systems and data sets in each of the various geographies served, to a model where data itself is considered the enterprise asset of value. Doing so meant adopting an enterprise-wide data cloud mentality.

By creating a "workbench" that enabled them to build components to be deployed via a Kubernetes structure, and by utilizing a single data management plane through implementation of the Cloudera Data Platform (CDP), they are able to process data acquired across all their systems at a rate as fast as 3M records per second. Further, since they are on a single integrated data platform that is located in corporate headquarters, they are able to quickly implement country specific requirements without having to "touch" multiple

local systems. This enables a major cost savings and a much reduced time to implementation of any required changes. MTN is now examining how to transform into a fully virtualized environment so it can run on a multi-cloud infrastructure while still being controlled through a single interface.

The entire telecommunications space is in the process of changing. Indeed, we estimate that only about 40%-50% of carrier infrastructure is fully virtualized, with most of that effort occurring in network operations to better enable vRAN (and eventually ORAN) for 5G operations. But the back office systems are often still in need of updating. Much of the customer data analysis that can better understand customers and provide input for marketing campaigns and improved customer interactions goes unused. While a large amount of data from customer interactions will come from centralized data centers, the impending move to enablement of Edge processing means that data will need to be collected and integrated from a variety of edge-deployed locations. The only efficient and effective way to do so is to create a data platform deployed across a multi-cloud environment that can ingest and process data from all sources.

An example of this is Amdocs and Nokia running their enterprise data cloud on top of CDP to perform analytics processing and gain insights to customer usage trends and operations optimization. This integrated approach leads to much more effective analytics and insights. As operators move to more intelligent systems running AI/ML processes, it's even more imperative that all data is available and manageable from a single access point of this type. As many carriers move to offer managed services to enterprise customers, it is critical that all data governance be optimized through a single platform while still meeting the diverse needs of individual customers.

Bottom Line: Carriers worldwide are struggling to fully cloud-enable back end systems to better understand customer behavior and offer new services like payments, entertainment, paid apps, security services, etc. This requires a centrally managed data cloud environment that can not only provide the required analytics to mange operations, but also provide the needed oversight for regulatory compliance and privacy. And because these requirements may change often, doing so from a central point of management is critical. Without a totally optimized enterprise data cloud (e.g., CDP), companies will not be able to remain competitive in a highly regulated but quickly changing market.

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