Telecom Argentina

Transforming into 2020 with cloud

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With mobile penetration hitting 140 percent by early 2016, Argentina has one of the most dynamic mobile markets in Latin America and the third largest after Brazil and Mexico. Its mobile penetration rate for unique subscribers is 90 percent, comfortably beating out Europe at 85 percent, the US at 80 percent, and the regional average of 68 percent.

Active in fixed services, personal mobile services, and Nucleo mobile services, Telecom Argentina is the largest integrated operator in the nation of just over 44 million, generating the highest ARPU value and income in the market. Its revenues are also on an upward trajectory, increasing by nearly

49 percent from 27.3 billion Argentine pesos (US$1.71 billion) in 2013 to 40.5 billion in 2015.

Time to grow

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Argentina's adoption of 4G has been the fastest in Latin America, with GSMA Intelligence estimating that 3G and 4G subscriber penetration in the nation will rise to 56 percent of the population by 2020, up from 37 percent at the close of 2015.

Moreover, new growth opportunities exist as the ICT ecosystem expands. GSMA Intelligence analysts estimate that the CAGR for cellular IoT connections in Latin America will increase by 25 percent to hit 62 million by 2020. Moreover, Buenos Aires has set its sights on becoming one of the top 10 smart cities in Latin America, with operators planning to collaborate on projects covering transport, mHealth, and energy optimization over the next five years.

All on cloud by 2020

The increasing competition, huge rise in network demand, business opportunities, and potential in the local market are all factors that Telecom Argentina understands. The result was the operator's five-year transformation plan up to 2020 to cement its position as the leading fixed and mobile operator in Argentina.

Placing NFV front and center, the strategy's objectives are as follows:

Create a more agile, simple, efficient, and automated network to complete ICT convergence and digital transformation by 2020.

Implement an E2E deployment plan for cloud-based VoLTE, VoWiFi, and VoBB along with Rich Communication Services (RCS).

Provide a converged user experience through FMC.

Deliver the optimum MBB solution to subscribers.

Offer Communications as a Service (CaaS) to encourage service innovation and monetize network capabilities.

The pain points

Identified by Huawei in conjunction with a service provider, Telecom Argentina suffered from various ailments:

Complex network, tough maintenance, and high OPEX: The legacy network ran too many MSCs, three different hardware platforms under MSC pools, and a high number of low-performing, power-hungry MGWs. A huge footprint compounded by sky-high CAPEX and OPEX were long-term burdens for Telecom Argentina, with too many network elements and a complex network complicating maintenance.

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Restricted expansion: The operator's main vendor used a high number of proprietary interfaces, refusing to dock with other manufacturers' equipment and thus restricting expansion. The vendor's TTM was slow and it couldn't keep pace with demand, offering poor evolution capabilities to ICS, FMC, VoLTE, and cloud, which crippled Telecom Argentina's vision for the future.

Network development with Huawei

Successful trials led Telecom Argentina to accept the Huawei proposal for digital transformation by 2020.

The project comprises three central and eight edge data centers (DC), with Huawei's NFV solution installed in phases. The infrastructure layer of the DCs consists of the Huawei COTS FusionServer E9000 with Openstack-based Huawei Cloud OS FusionSphere deployed on top. The Huawei MANO is responsible for service orchestration, VNF deployment, and VNF scale-in/out.

Huawei enabled VNF with its CloudIMS, CloudEPC, and CloudDRA solutions installed in an E2E full cloud-based architecture. Three central DCs host control plane elements to keep costs low, while edge DCs host data plane elements to improve user experience. The three central DCs form a network-wide disaster recovery solution for all sites, and fall under the unified management of EMS/MANO.

CloudIMS and CloudEPC were deployed for VoLTE, native VoWiFi, and RCS in the initial phase, which was followed by the mass commercial launch of VoLTE plus VoWiFi and VoBB migration. ICS and IMS roaming, convergence conference, unified communications, and CaaS will become effective in successive phases.

All core solutions are NFV-based, and were deployed by the end of 2016.

The right vendor

Telecom Argentina chose Huawei for this project based on its cutover experience, flexible commercial solutions, and the following benefits that Huawei's R&D and TSD teams could offer:

Raising capabilities through abundant multimedia services: Huawei's IMS solution allows Telecom Argentina to quickly launch new services, including video and enterprise communications services as well as voice, which will raise ARPU by attracting high-end customers. Rapid and diverse service rollout will also increase the operator's competitiveness.

Easy maintenance, simple network structure, and far lower TCO: Simplifying the tracing of E2E signaling and unified SingleOSS also simplifies maintenance by locating faults up to 16 times faster, while E2E media tracing helps maintain voice quality. The Huawei solution contains fewer nodes, which greatly simplifies network structure with real time geo-redundancy, and slashes O&M costs.

Full cloud transformation with a carrier grade solution: The Huawei solution is based on fully cloud-based architecture. VNF architecture is optimized and reconstructed by using cloud to support three-layered software architecture comprising load balancing, distributed databases, and stateless service processing units. Moreover, it can complete elastic scaling in a few seconds without interrupting ongoing sessions. The new architecture also introduces automatic services and orchestrates resources to enhance the flexibility and elasticity of the entire system. In addition, 99.999 percent carrier-class reliability on cloud networks is achieved through innovations like KPI-based health checks, auto-recovery, and disaster tolerance spanning multiple DCs.

Migration to all-IP: Huawei's cloud based IMS solution will help Telecom Argentina deploy an IP-based fixed voice service. Migrating to all-IP architecture allows services like VoLTE and VoWiFi to be easily deployed, raising the operator's game from voice to dual HD underpinned by an E2E security solution. FMC services will streamline the boundary between fixed and mobile services for a converged user experience.

Huawei is an active participant in NFV standards organizations and driving NFV maturation and commercialization around the world. Huawei's CloudCore and CloudEdge solutions have completed extensive Proof of Concept (POC) testing across multiple continents. Huawei is a leading NFV solution provider with the highest number of deployment cases, winning 87 commercial NVF contracts in 1H 2016 alone.

In 2017, Huawei will continue to help operators build their own agile, open, and flexible cloud networks, promoting the positive development of the global mobile industry.