Decommissioning Legacy Networks

How Vertix Consulting Helped a Top US Wireless Carrier Decommission Its CDMA Network in Mexico for Future LTE Deployments

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THE CHALLENGE

A major carrier in Mexico was in the process of simplifying its network by decommissioning CDMA, which would allow them to reuse spectrum and provide better broadband wireless services throughout the country. The carrier made a strategic decision to focus on LTE and UMTS only, ultimately decommissioning the existing GSM, CDMA and iDEN networks. As voice traffic moves to VoLTE, the carrier wanted to harvest spectrum used by these technologies, make space on the tower and ground for LTE and UMTS, and reduce tower rent and operating expenses associated with equipment on the towers.

Decommissioning older technologies is a multi- stage effort, initially focused on migrating customers to newer technologies and then turning off the legacy technology so that spectrum can be re-allocated. Individual users had old, pre- paid balances on phones they no longer used. In order to allow for a smooth customer migration and avoid any issues with PROFECO, the federal consumer protection agency, the carrier had to notify individual customers via text, mail, and phone calls to carefully coordinate the termination of legacy service.

Adding to the complexity, the legacy technology was integrated with newer technologies on many sites. For example, all equipment on the site used the same legacy power plant, which was over 15 years old and some parts are no longer available. The CDMA equipment used by on-going services had to be shut down, the power plant had to be upgraded, and all of this had to be accomplished without impacting current live services.

THE SOLUTION

Vertix Consulting was engaged to assess the current environment and create a plan to decommission the legacy CDMA network, which included the cell sites and switching centers. Our team of subject matter experts analyzed the current network, including the shutdown schedule and frequency reallocation timeline. The assessment took into account the carrier's need to add equipment at every switch center in support of VoLTE and global cloud services that were being deployed globally.

To coordinate activities across organizations, Vertix developed a detailed process and budget to decommission the CDMA network. The responsibilities extended across multiple organizations including Accounting, Logistics, Lease Management, PMO, MSO Operations, Deployment and Field Operations. We worked with each of these organizations, examined the impact of the decommissioning on their existing processes, and developed a plan to adjust for the upcoming changes.

In addition, Vertix worked with the Commercial group as they migrated customers. The carrier extended an offer to all CDMA customers to trade in their phones for new LTE devices. By mapping the customer transition to LTE, Vertix helped the client synchronize the network shutdown with the customer migration.

In order to meet the corporate guidelines, all equipment had to be disposed of properly in authorized recycling centers, especially the old batteries. Vertix identified multiple

disposal and recycling facilities, including those which recycle batteries classified as hazardous materials.

In order to document site-specific decommissioning requirements, Vertix developed an online site survey reporting tool which could be accessed using a laptop or mobile phone. The system supported site survey reporting, power migration, power installation and tracking of progress capabilities. The results of the survey were uploaded to the carrier's database of record to preserve the information for future internal reference.

Vertix used the results of the CDMA assessment to craft two Requests for Proposal (RFP) – one for the RAN site decommissioning and one for the switching center decommissioning. Both RFPs contained all decommissioning requirements and carrier processes with which the vendors had to comply. The RFPs were distributed to multiple site deployment vendors and the evaluation process resulted in contracts being awarded to two national vendors for MSOs,

and two national vendors for RAN decommissioning.

Once the project moved into the execution phase, Vertix led the communications and day- to-day program management effort to coordinate vendors and internal resources, keeping the project on schedule and ensuring that all affected organizations understood the impact of any schedule changes. In addition to weekly reports and daily supporting communication, the Vertix team engaged with multiple business units to ensure communications were clear across the carrier's organization.

Vertix identified several areas of concern for Field Operations as a result of site surveys, such as the lack of power redundancy on many sites. The earlier deployment activities had not installed equipment with sufficient redundancy, so Vertix added this activity to the project scope to future- proof the site infrastructure for upcoming LTE equipment deployments.

Vertix worked with the vendors to review and refine procedures. We trained the crews on what equipment to look for and how to submit the site survey report, how to efficiently write the MOP (method of procedure) required for any work performed, and how to comply with the carrier's rules regarding site access and security.

Vertix's support included:

- Working with Deployment and Operations to setup the processes for decommissioning, developing the responsibilities for each organization, identifying process improvement opportunities, creating initial site plans, and deploying the reporting system

- Developing the decommissioning services RFP, evaluating and ranking vendor proposals, negotiating pricing, creating a vendor evaluation model, and making final vendor selections

- Negotiated with vendors regarding RFP proposals, scope, pricing and schedule. Worked with the carrier to award and contract with multiple vendors, and to prepare to start the project

- Handling all interactions between the client and the prospective suppliers

- Establishing a business model and working with Finance to define the overall project budget

- Engineering an initial site plan for all RAN sites and switch centers to be decommissioned

- Participating in workshops with Operations to define process workflows, site plan priorities and reporting requirements

- Working with Fixed Assets and Accounting to write off equipment as it is decommissioned and taken to disposal facilities

- Documenting when sites have been decommissioned to ensure no additional rent is charged

- Developing and implementing

a communications strategy with Operations and Deployment to address handoffs between organizations

- Managing vendors to meet the site plan schedule and project budget

- Onboarding of augmented staff to assist operations

- Reporting on progress, updating the site plan, and managing vendors' workload

THE RESULTS

Through effective analysis and management of the process, vendor selection, and site plan development, the Vertix team implemented a MSO/RAN decommissioning process for CDMA switching centers and BTS sites. The decommissioning program freed up space and frequencies for use by LTE and other technologies, preventing additional rent charges:

- Created and updated the site decommissioning plan for 3,000 sites, taking into account local issues, security concerns and site access

- Shut the legacy network down without any customer complaints and with no warnings from PROFECO, the national consumer protection agency

- Decommissioned CDMA equipment in switching centers, reducing power consumption and cooling, freeing up space for VoLTE equipment, and meeting the schedule for the global cloud network equipment

- Removed CDMA antennas, cables, cabinets and other equipment to free up space on RAN sites for use by LTE and UMTS

- Replaced outdated legacy power plants, significantly reducing electricity consumption

- Upgraded sites by installing redundant power cabling and equipment, preventing a single point of failure on many sites

- Setup contracts with recycling centers to take the decommissioned materials so the carrier made a profit on the discarded equipment rather than pay for disposal services, as they had originally planned

The client exceeded the program objectives by not only preventing additional tower rent, but also by upgrading site power plants, and by making a profit on decommissioned legacy equipment.

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About Vertix Consulting

We are a highly specialized consulting firm that provides pragmatic and actionable insights on the most critical issues faced by providers and consumers of telecom, media services, and technology.

At Vertix, we pursue our collective passion for helping carriers, OEMs, tower companies, MSOs, network services vendors, equipment suppliers, and telecom and technology consumers resolve their most complex strategy, sourcing, and deployment challenges. From helping a carrier deploy a 4G network to negotiating an IoT services contract for a client in the manufacturing sector, we cover the entire TMT value chain.

Our focus and simplified model enables us to deliver an alternative vision for our clients: producing client-centered solutions in a way that only experienced and proven professionals can.

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