

Proxim's Lynx Systems Help Eliminate Barriers Between Puerto Rico's Facilities and Jurisdictions

Located between the Caribbean Sea and the North Atlantic Ocean, Puerto Rico is a tropical island. Approximately 3500 square miles, the island is home to nearly 4 million people, making it one of the most densely populated islands in the world.

Until recently communication throughout Puerto Rico was done the old fashioned way—either through telephone or driving to another facility or jurisdiction to deliver material or hold meetings. In 1995 Puerto Rico's governor, Pedro Rossello, created the Governor's Information Systems Committee (GISC) and put the Office of Management and Budget (OMB) director, Jorge Aponte, in charge. With a strategy to integrate applied and innovative technology throughout Puerto Rico, GISC's objective was to have all government facilities linked and operating 24 hours a day, seven days a week by the end of summer 2000.

With a goal to automate the government's information systems, Aponte put together a proposal request for a new and expanded network solution that would improve service delivery to all Puerto Rican citizens. The new solution was also to provide voice, data, and electronic image or video transfers within Puerto Rico for all government services available in electronic format.

Aponte reviewed the traditional cable methods and looked at cost proposals submitted by the local companies, but the cost and timeframe was too high and too long.

"We received cost proposals ranging from \$60 to \$713 million. None of these proposals provided a comprehensive solution to the needs stated in the request. Some of them wanted to take care of the easy part of the job, others included only partial solutions, and they also proposed to complete the job in three to five years—longer than what we felt was appropriate," says the Office of Management and Budget director, Jorge Aponte.

Aponte decided to look into a wireless solution. Meeting with various NASIRE colleagues in Colorado Aponte realized the benefits a wireless solution would bring to the island of Puerto Rico. Even though there was some apprehension from Puerto Rico's government about implementing a wireless solution, nothing could beat the cost and the speed of being able to implement a high-speed telecommunications network.

After five years of research and proposals, PRStar.net was born. PRStar.net is comprised of wireline and wireless connections throughout the island.

After reviewing three other wireless solutions, Puerto Rico turned to Proxim's Lynx DS-3 for its license-exempt operation and ability to deliver high bandwidth throughout the island. The Lynx DS-3 is currently the industry's fastest license-exempt wireless system available.

"Proxim's Lynx systems deliver the high bandwidth we needed to transmit data, voice, and video services throughout our 79 municipalities across the island," says Aponte.

Since Proxim's Lynx DS-3 systems provide wireless full-duplex DS-3 connectivity under emerging license-exempt regulations, Puerto Rico found the implementation fast, easy, and trouble-free.

PRStar.net is composed of three layers of communications: the backbone running ATM at 155 Mbps; the backbone extension running ATM at 45 Mbps; and the local clusters running Ethernet at 11 Mbps. Proxim's Lynx DS-3 systems provide transport in the backbone extension layer, serving as the bundle between the backbone and the local clusters.

With the help of Proxim's Lynx systems, Puerto Rico's government agencies can rely on interagency electronic mail and access the more than 50 public Web sites through PRStar.net. In addition to regular state government offices, city halls, the legislature, public schools, public housing projects, courts correctional facilities, and public libraries will be able to receive telecommunications services off the PRStar.net free of charge. All costs have been centralized at the OMB level in order to facilitate business processes and services.

With the new wireless solution, PRStar.net is designed to reduce the so-called 'digital divide' and increment access opportunities in Puerto Rico's remote communities. "Thanks to the government's incursion in wireless telecommunications, today we can offer public housing communities a window of world information, expanding the opportunity to those fellow Puerto Ricans to improve their educational opportunities and levels of employment. In addition we can help eliminate the social and economic walls to access information and obtain new opportunities as we transition to the Knowledge Society," explains Aponte.

One of the problems a wireless solution would solve was to bring together the isolated communities dispersed throughout the island of Puerto Rico.

For example, Vieques, Culebra, and Castaner are three isolated communities in Puerto Rico that have always been affected or limited in the government services they receive because of their physical and geographic location. With Proxim's Lynx wireless systems, PRStar.net will be the door to the world for the residents of these communities-accessing electronic libraries, virtual offices, and more.

"With the help of Proxim's Lynx systems, Puerto Rico is getting the best technology at the best possible price. We estimated savings of at least \$100 million compared with the cost proposals submitted by the local companies bidding for the project's island-wide rollout," says Aponte.

PRStar.net's operational center is located in Santurce, Puerto Rico and connects 785 central government offices, 332 public housing projects, and 1,547 public schools. "Most government facilities have already completed access to the PRStar.net network." Aponte adds.



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