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Fact Sheet

THE MAKING OF THE MOST REMOTE DIGITAL CITY
- Parintins, Brazil -

Background on Parintins

Parintins, a Brazilian island city with 114,000 residents, is located roughly halfway between Santarém and Manaus in the middle of the Amazon jungle.

There are no roads to Parintins – it can only be reached by a 12-hour boat ride from Manaus, or by airplane. It is a perfect example of a rural city that suffers the consequences of being located in a very remote region where difficult access to telecommunications and transportation generates many kinds of problems for the local community.

The remote location is a challenge for Parintins' 32 doctors, as it impacts their ability to provide affordable quality care to their patients. The city has only one hospital. It is a difficult journey for patients who need to see a specialist or require special treatment outside of Parintins.

According to Brazil's Ministry of Education, Parintins has over 37,000 students and 1,300 teachers. The city region has 190 public schools and a community center predominantly based in rural areas. Of this number, only 61 schools have access to a power line and just one a computer lab and internet access.

Although facing many challenges, Parintins has its glamorous side. In recent years, it has become well known for the Parintins Folklore Festival (Festival Folclórico de Parintins), the second-largest annual festival in Brazil; only the Carnival festivities in Rio de Janeiro draw more participants. Often called Festival do Boi-Bumbá or simply Festival, the event takes place during three days in late June and attracts large audiences from around the country.

Selection Process

In May Intel announced the Intel World Ahead Program. The Intel World Ahead Program is a $US 1 billion investment over 5 years to extend wireless PC Internet access to 1 billion more people in developing communities and accelerate their embrace of technology. With support of the Brazilian government of the projects in the Amazon region projects, Intel began to consider the city of Parintins. Oscar Clark, Intel's president of Brazil, and Ricardo Carreon, Intel's regional director for Latin America, agreed the city would be a perfect "proof of concept." Intel

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would be able to illustrate what is possible when people are provided with access to technology and education – even if they are in the middle of the Amazon jungle.

Making the Digital City

On July 12, 2006, the Intel team met with the mayor of the Parintins to present the project. Upon hearing the proposal, he was so excited that he joined the Intel team on the site survey. The team toured the city hall, health center and community center. The state of the schools was particularly concerning, as they had lacked the bare essentials, such as chairs, electricity and water. A simple bookshelf was sometimes referred to as the "library."

Two days later the Intel team returned to their Sao Paulo offices. ***To some, the challenge was slightly daunting: how to bring PC access and Internet connectivity through a WiMAX network in the middle of the Amazon jungle?***

While Intel was happy to lead the effort, they knew that only by partnering with local providers would the effort be a success. Thus, the team started to negotiate donations for network equipment with Promix and Cisco. They also engaged Embratel, the local carrier with satellite link services and 3.5GHz license in the Amazon. A local system integrator, CPqD, was also contracted to coordinate infrastructure work.

The Effort:

Working with the Brazilian government, business, and educational officials, Intel and its partners installed a state-of-the-art WiMAX network for a primary healthcare center, three public schools and community center.

While challenges existed, the team was able to develop the project plan, design specifications and configure the equipment in just two weeks. Installation and testing of technology followed. At the end of five weeks, they were able to train teachers and doctors.

On the healthcare front, Intel worked closely with the State University of Amazonas (UEA) and Federal University of Amazon (UFAM). Both universities have formed a Telemedicine center in Manaus that will be the first point of contact for Parintins doctors. The University of São Paulo (USP), the country's telemedicine leader, assisted in the effort by providing software tools and the use of its "Virtual man" (Homem Virtual), a computer graphics representation of the human body associated to one specific disease or profilaxy to assist in correct diagnosis and supporting treatment decision. USP also allowed access for Parintins doctors to continue education, such as refresher courses on specific subjects through virtual access to classes given in Manaus or in São Paulo. They can participate in online discussions and seminars and stay connected with colleagues in other parts of Brazil.

The Federal Medical Council (Conselho Federal de Medicina or CFM), the major organization that defines the rules of medicine in Brazil, was also involved as they wanted to better understand how an effort like this could be replicated to assist with the entire country's health system.

In terms of education, Intel donated and installed computer labs at the three schools, where, for the first time, students and teachers can regularly connect to the outside world. The overall initiative prompted the city of Parintins to get involved in providing electricity to these schools.

Other partners such as the Bradesco Foundation, the regional training facility agreed to implement one of their Digital Inclusion Centers inside that community center, to expand training capabilities to help achieve larger social impact.

The Results

On Aug. 27, the Intel team returned to Parintins. Upon returning, they noticed changes at the places visited previously. Three days later they were able to witness first-hand how the WiMAX network and four laboratories (two schools, one community center and one health care center) in Parintins "go live." It was unbelievable that so much could be accomplished in just 6 weeks. More exciting results below:

Medicine

As part of the initiative, Amazon University is starting a telemedicine program developed jointly with the medical school of Sao Paulo University. The new capabilities, including video teleconferencing, will give the island's 32 doctors faster and greater access to the latest medical data to help in preventing diseases, including leprosy, other skin conditions and AIDS.

Even the initial tests of the telemedicine system showed its potential when a doctor hundreds of miles away found a lesion on a man's arm in Parintins during a video examination by dermatologists. He recommended a biopsy. "Had it not been for the system," said Barrett, "doctors believe the lesion likely would have gone undiagnosed. This kind of real-time interaction between specialists and patients – separated by great distances – is possible because of wireless broadband access to the Internet."

Dr. Gregorz Maciejewski, municipal secretary of Health in Parintins said: "I would like to take this historical moment to express my gratitude for everything that was done and the benefit the project had already brought to the Parintins community."

Education

The local school system was beyond compare. Once lacking basic school essentials, the team found classrooms with painted walls, a power light generator, air conditioner, new chairs and tables. As the start of the program, over 1,000 students grades K-12 will have access to the Internet through their schools.

Intel donated three computer labs with wireless broadband connection (two in schools, one in community center) already deployed. The initial Intel® Teach training in two schools certified 24 teachers. The Intel Learn curriculum was also deployed to one community center (Centro de Geração e Rendas Aldair Seixas) and certified 15 community coordinators.

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