Case Study

Empowered by Innovation NEC

Biometric Voter ID Solution

National Electoral Court of Bolivia

Company

- National Electoral Court of Bolivia

Industry

- Government

Objective

- To gather the biometric data of Bolivian citizens living in Bolivia and abroad so as to create an accurate and reliable electoral voter list to be used for national elections.

Challenges

- Population spread over wide area
- Range of biometric technologies required
- No local infrastructure to support biometric database
- Tight deadline due to imminent elections

Solution

- Installation of 3,000 enrollment terminals with biometric data gathering capabilities
- Use of fingerprint, signature, and facial recognition technologies
- Construction of two data centers and training of local staff

Results

- Biometric database created in time for elections
- Electoral voter list purged of more than 3,000 duplicate and otherwise illegal voters
- Bolivians living overseas enfranchised for the first time in history

In December of 2009, Bolivia held presidential elections based on an electoral voter list created by using biometric data—a list that allowed Bolivian citizens living outside Bolivia to vote, for the first time ever. This historic event came about through the dogged efforts of the National Electoral Court of Bolivia (*Corte Nacional Electoral - CNE*) and NEC Argentina.

Proposing an original solution consisting of AFIS (Automated Fingerprint Identification System) and facial recognition technology, hardware, software, and staff training and support, NEC helped the CNE complete their mission to create a biometric voter list that resolved issues of voter fraud and inaccuracies, thereby returning Bolivia to a state of political and institutional stability.

Challenges

Bolivia has a population of about 10 million people of many different cultures, spread over a geographic area of over one million square kilometers. For political and geographical reasons, Bolivia has long lacked a permanent, reliable electoral voter list.

The solution required by the CNE had to include biometric technologies for registering a range of different people and a way to train experts to eliminate suspect registrations. The solution had to be cost effective and, due to the pressure of upcoming presidential elections, the project had to be completed in just 75 days. Implementing the solution over such a large geographical area, with a capital situated high up in the Andes, would also require a strategy combining logistics, training, legal support, and communication. Moreover, to encourage people to register their data, the process had to be impartial and secure.

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Solution

As one of three companies responding to the CNE's international tender, NEC's proposal was clearly the best, showcasing superiority in secure and reliable system integration solutions, cost effectiveness, and rollout speed.

The solution proposed by NEC included the delivery of 3,000 full enrollment terminals to be installed throughout the country and used to register fingerprint, facial, and signature data as part of the voter registration process. NEC also implemented a main and a backup data center, and provided and installed all the required equipment. In addition, NEC trained the voter registrars, provided comprehensive technical support during the registration process, and delivered the cleansed biometric electoral database.

The building of the data centers, actual registration process, and generation of the voter list from the biometric database were handled by the CNE.

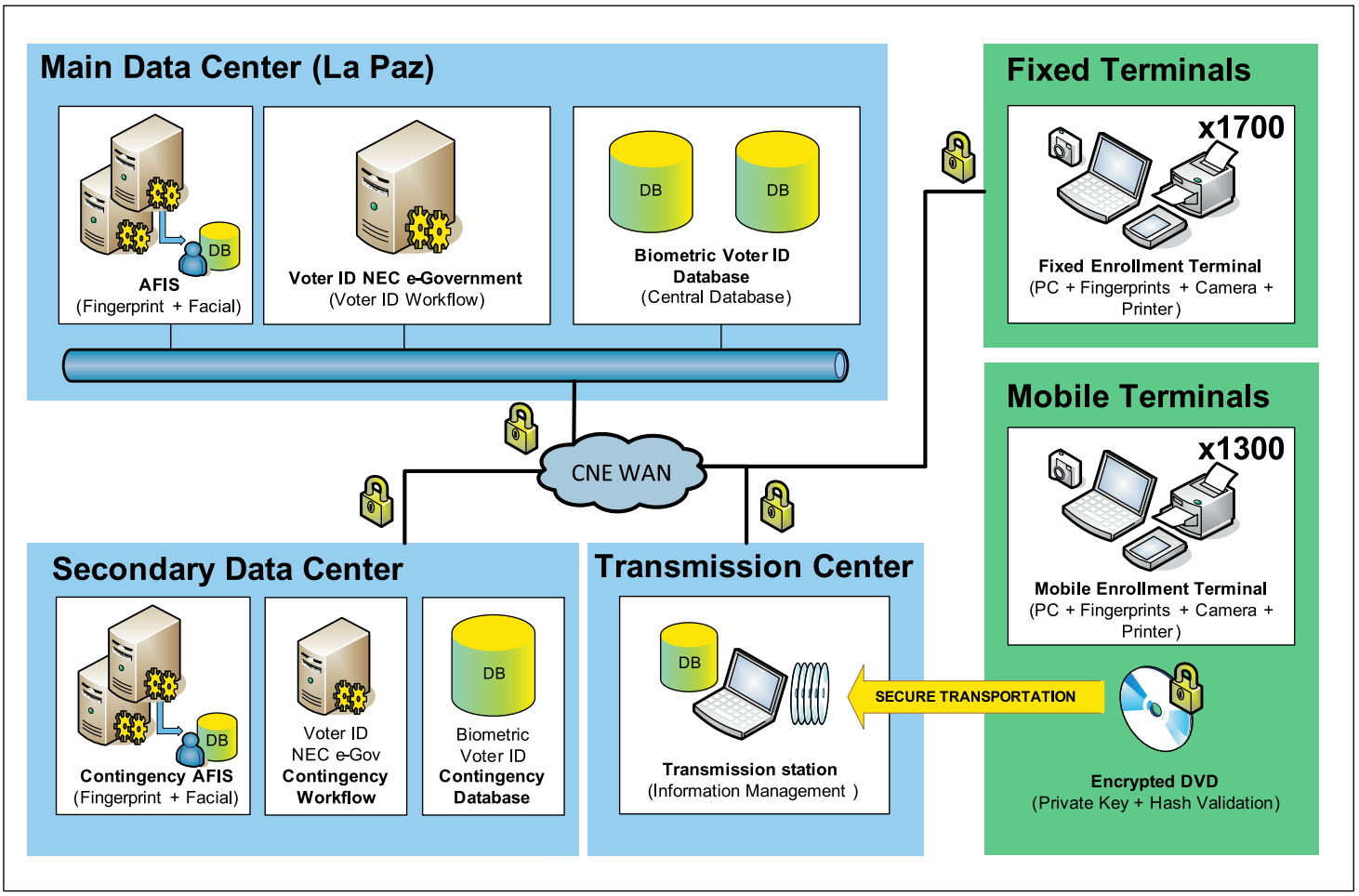
Technology

The 3,000 enrollment terminals supplied by NEC each included a desktop or notebook computer, digital camera, tripod, printer, signature and fingerprint scanners. The biometric solutions incorporated the company's latest fingerprint identification technologies as well as *NeoFace*®, NEC's state-of-the-art facial recognition technology, which was used to collect the biometrics data of people whose fingerprints were not clear enough to scan.

NEC' s highly accurate and reliable fingerprint matching and facial recognition technologies ranked top in the *Evaluation of Latent Fingerprint Technology* (ELFT) test and in the *Multiple-Biometric Evaluation Still-Face Track benchmark test* carried out by the National Institute of Standards and Technology (NIST*) and sponsored by the U.S. Department of Homeland Security.

NEC also provided the servers, a storage solution, a tape backup solution, and Ethernet switches for the data centers.

The information generated by each terminal was encrypted and saved on disks which were physically transported to the CNE' s central building. The data on the disks was then transferred to the servers in the data centers.



*NIST test results do not constitute endorsement of any particular system by the government. For more information, visit www.nist.gov.

National Electoral Court of Bolivia

Results

To keep on schedule, NEC drafted a very detailed logistics plan and monitored all contractors on a daily basis to ensure that delays did not domino down the supply chain.

"*NEC worked as our partner and demonstrated a high degree of efficiency and commitment, working long hours in many cases,*" said Antonio Costas, President of the CNE. "*NEC's commitment allowed us to clear all the hurdles, resulting in the successful registration of Bolivian voters.*"

Alejandro Aramburu, Project Manager at NEC Argentina added, "*We had to be on our toes for this project, ready to react quickly to changes and setbacks since the execution time did not permit delays. We succeeded because of our detailed monitoring of logistics and thorough risk management.*"

The new biometric voter database enabled the CNE to purge close to 3,000 duplicate voters from the list. The superior accuracy, reliability, and flexibility of NEC's AFIS and facial recognition technologies and the complete security of the data centers, combined with the CNE's dedication to completing their mission, gave the Bolivian people the confidence they needed to register their data and generated significant grassroots enthusiasm for the project.

Many unfairly disenfranchised voters—including disabled people, people living in isolated areas, and overseas residents—were finally able to register on the voter list. The new voter list consequently swelled from 3.5 to 5.2 million voters, allowing truly democratic elections for the first time in many years.

Nowhere else in the world has a project of this scope been carried out so successfully, in such a short time, and with such impressive results.

CNE President Antonio Costas summed up the success of the project: "*Without a doubt, the new biometric voter list created through the cooperative efforts of NEC and the CNE has resolved definitively the problems of voter duplication and voter fraud, restored political stability in the country, and given a record number of Bolivian citizens the chance to participate in democratic elections.*"

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> Antonio Costas
> President, CNE

About

The government-appointed National Electoral Court of Bolivia (*Corte Nacional Electoral (CNE)*) oversees elections and electoral results at all levels of Bolivian government. The CNE is responsible for registering voters and managing the resulting list. The impartiality of and public confidence in the CNE are vital to ensuring fair elections and maintaining political stability in Bolivia.

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