A Vote for the Future

Instituto Electoral del Estado de Mexico switches from Sun to HP systems to build advanced election management solution

IEEM
Instituto Electoral del Estado de México

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HP customer case study: Instituto Electoral del Estado de Mexico

Industry: Government

Objective

To ensure prompt, accurate processing of votes and efficiently coordinate elections in the State of Mexico.

Approach

Streamline and modernize infrastructure with move to HP Integrity servers.

Business technology improvements

- Achieved superlative performance on HP Integrity rx3600 with Intel Itanium processors
- Moved to cost-effective Red Hat Linux Advanced operating system to run Oracle 10g database and custom election processing software
- Monitored network connecting 170 offices using HP Operations Manager
- Implemented custom application in time for election by tapping HP and partner expertise
- Moved to systems with smaller footprint to help reduce costs

Business outcomes

- IEEM is saving US $20,000 annually in maintenance costs and has reduced power and cooling costs.
- Election votes can now be counted faster and more reliably to help ensure that there are no questions about the results.
- 170 dispersed offices have an additional safeguard that they will be able to communicate reliably during elections.
- IEEM now has a scalable, reliable, high-performance platform that the organization can rely on for many years into the future.
- HP and partner expertise helped IEEM successfully prepare for upcoming gubernatorial election.

The Instituto Electoral del Estado de Mexico (IEEM) is responsible for organizing elections for state authorities in the State of Mexico. The process of handling elections for Mexico's largest state is complex and involves coordinating 17,000 poll locations, communications among 170 electoral offices, distribution of polling staff applications to 1 million citizens, voter registration, and management of 300,000 representatives from various political parties. Once the votes are all cast, IEEM is responsible for counting votes and providing preliminary results the same day as well as final results on the third day. It is a processing- and coordination-intensive task with major potential consequences.

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"We require electoral systems that won't fail, because if any potential questions arise while we are processing votes, it could result in political problems or unrest," says Pablo Carmona, IT and Statistics head chief for IEEM. "To manage the state elections, we absolutely have to have an extremely reliable, high-performance platform."

At the same time as IEEM requires systems with near-perfect uptime and exceptional processing power, the organization must also keep a tight rein on costs. "Our budgets have been greatly reduced, so we have to use our allotted government funds as wisely as possible," adds Carmona.

Supporting extreme processing needs, without fail

In gearing up for the 2011 gubernatorial election, IEEM faced two seemingly contradictory mandates: upgrade the platform for managing the election and counting votes, while reducing costs at the same time. For electoral processing, IEEM uses a custom-built application running on an Oracle 10g database. During an election, the Oracle database and custom electoral application run 24/7 under heavy loads, processing votes.

IEEM had been managing elections using two Sun Ultra 2 servers running Solaris 2.6 and Oracle 8i. The Sun systems, procured in 2002, were lacking processing power. Maintenance and operating system costs on the Sun systems had become prohibitively expensive.

"Our Oracle database and our web server needed much more power to function properly and handle the demands of the upcoming election," says José Luis Villegas, systems development administrator for IEEM IT and Statistics. "At the same time, maintenance and operating system costs for the Sun platform were reaching tens of thousands of U.S. dollars a year – an unacceptable amount for an organization with shrinking budgets and the need to use funds as wisely as possible."

IEEM is responsible for elections held in the state of Mexico.

Customer at a glance

Industry sector:
Government

Name:
Instituto Electoral del Estado de Mexico

Headquarters:
Ing. Francisco Javier López Corral, Executive General Manager

Founded:
March 1996

Telephone:
+52 (01-722) 2757300

Number of employees:
400 permanent employees and up to 5500 during the election process development

Customer motto:
Technology is bringing certainty and transparency to the voting process

Annual revenues:
No revenues are being accounted since IEEM is a governmental entity

URL:
www.ieem.org.mx

Adds Juan Carlos Baca, technical support IT administrator for IEEM IT and Statistics, "Prior to the 2011 election, we absolutely had to obtain a new server platform with better performance, easy scalability, and low-cost maintenance. And of course, Election Day must occur on a set date, so we were under pressure to have a new platform fully implemented and thoroughly tested well in advance of the election."

The search for a robust, cost-effective platform

The IEEM team began investigating its options considering Sun, IBM, and HP in-depth. IEEM worked with technology expert and systems integrator DISA to conduct benchmark performance tests of all three solutions. HP came out on top.

Says Baca. "From the benchmarks, we knew that the HP Integrity platform with Itanium processors would give us enough power to process election votes in a fraction of the time when compared with our previous Sun platform, and it would scale easily to support our future needs. While we have not used it yet, we are also evaluating HP's iCAP software for even easier, instant scalability."

After the first evaluation round, it came down to HP and Sun. As a long-time Sun customer, IEEM was still skeptical at first about the advantages of HP over Sun. Then IEEM discovered that the HP systems could run the cost-effective Red Hat Linux Advanced operating system—and that Oracle 10g also runs on Red Hat Linux. And there were additional advantages to going with HP.

"The maintenance costs of the HP systems came in at about US $20,000 less a year. Plus, the compact footprint of the HP Integrity servers would reduce our power and cooling costs," says Villegas. "The systems were also pre-certified by Oracle, an important consideration in verifying the performance of the solution components when working together. These factors, combined with the HP systems' superb processing performance made HP the clear choice."

Streamlining the migration from Sun to HP

Having selected the HP solution, IEEM began working with DISA and local HP contacts to migrate from Sun Ultra servers to the HP Integrity platform. DISA assisted in installing the Red Hat Linux operating system and Oracle 10g database running the custom election management application on the HP Integrity rx3600 servers.

Although IEEM had several months to make the transition, the migration had to happen flawlessly to guarantee that IEEM would be ready for the upcoming election. "Because our software is highly customized, we submitted many requests for solution changes to meet our unique requirements," says Carmona. "DISA was very responsive and technically savvy in meeting our needs, as were our local HP contacts."

Equipped for the future

The migration went smoothly and today, IEEM has a high-performance election management system and is well prepared to handle the extreme uptime and processing demands of the 2011 election. In addition to the HP Integrity servers, the team is using HP Operations Manager software to monitor all the connections between the 170 offices involved in coordinating the election to ensure that the network is working properly. IEEM also relies on HP's Support Plus 24 Service to help increase performance and availability with comprehensive hardware and software services. "HP Operations Manager and HP Support Plus 24 are two additional safeguards we employ to be sure that elections occur smoothly and without errors, so that no potential questions arise about the results," says Baca.

Customer solution at a glance

Primary applications
Custom-built electoral management application running on Oracle 10g

HP Services
- HP Support Plus 24

Primary hardware
- Two HP Integrity rx3600 servers

Primary software
- Red Hat Linux Advanced
- HP Oracle 10g database
- HP Operations Manager

For IEEM, the move to a solution with performance to spare, extreme reliability, and easy scalability is enabling the organization to more efficiently run government elections – a process that plays a critical role in supporting stable, predictable government operations in the State of Mexico. More than anything, IEEM has a platform and a team of technical experts from HP and DISA that will support its efforts years into the future.

"The HP Integrity platform with Itanium processors from a price/performance and reliability standpoint is far superior to the Sun and IBM alternatives we considered," says Carmona. "But what has also impressed us is the stellar support and technical expertise we received during the migration process and continue to receive from HP and DISA. They knew we were under time pressure to produce a highly customized, rock-solid solution, and they came through with responsive, expert service and support."

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