

# ACT Electoral Commission



## Australia's National Capital goes to the Polls ....Electronically

The Australian Capital Territory, or ACT, is Australia's federal and political capital.

ACT Electoral Commission is an independent statutory authority responsible for conducting elections and referendums for the Australian Capital Territory Legislative Assembly. It provides the community with high quality electoral services that ensure fair and open elections and referendums.

Government elections within the Territory are held every four years and run according to the Hare- Clark proportional representation electoral rules. The ACT Government is made up of 17 members from 3 multi-member electorates.

### The problem

In 1998 the Commission conducted a Legislative Assembly Election which ended in an extremely close result. Two of the candidates were just three votes apart. The following recount exposed a number of manual counting errors and concluded with the original result being overturned. The entire process took 21 days rather than the more usual 10, and delayed formation of the new parliament by over a week.

In reviewing procedures the incoming Chief Minister suggested there had to be a better way of counting the votes to obtain more accurate, faster election results. Thus began the Electoral Commission's investigation into electronic voting and counting.

### Electronic voting

Throughout the next two years the Commission researched options for computerising the process before issuing a Request for Proposal, seeking the technology industry's input on ways to improve the speed and accuracy of ACT election counting. This helped refine the Commission's requirements prior to going to an open tender in late 2000.

According to Phil Green, ACT Electoral Commissioner, "A number of vendors showed interest in putting voting on the Internet, however I don't believe that's secure enough even now. Many responses proposed proprietary software solutions, some of which existed, others of which were yet to be built. When it came down to judging we looked at the features, security, transparency and value for money from each proposal. However the notion of transparency was very important to us, it's a critical component of any election. The best way to achieve this seemed to be with open source software and this was one of the major reasons that we ended up working with Software Improvements."

With the software required for an upcoming October election, Software Improvements began development of a Linux-based system in April 2001. Specifications were written through a period of extremely close consultation between the Commission and Software Improvements.

Green continues, "Developing the system was an interesting process. I've never had a relationship with a commercial vendor such as the one we had with Software Improvements. The company could have asked for written specifications and then delivered a finished product, but this was unlikely to create a very satisfactory result. Instead we sat down and bounced ideas around together. The reason the software is so well suited to our needs is because we were able to combine electoral and technical expertise to come up with a unique system."



## eVACS®

The final system, named **eVACS®**, was divided into two main components: electronic voting, which was used in polling places to directly record votes; and electronic counting which handled the data entry and counting of votes, regardless of whether those votes were cast electronically or on paper ballots.

Electronic voting with **eVACS®** requires a simple booth machine or PC on which voters cast their ballot. Each PC is connected via a network to a single server for the polling place, recording votes as they are cast and providing information to the booth machines when necessary.

To maximise security, the servers in the polling place are not connected to any external network and at the end of polling the votes are physically transported from the ballot box machine to the counting (back-end) system by CD-ROMs.

The counting component consists of a number of data entry workstations and the counting server. Data entry operators manually enter the paper ballots into the workstations where they are recorded on the counting machine, which also receives (via CD-ROMs) the electronic ballots. Once the ballots are received and entered, eVACS performs a Hare-Clark scrutiny to produce the results of the election, and also provides reports similar to those produced during the manual counting process.

Integrity of the system was essential; a consideration that Green is confident has been achieved.

“Throughout every step, the Electoral Commission retains absolute control. From hardware to software, through set-up to collection of completed votes, it is the Commission and not the vendor or any other supplier that controls the process.”

Phil Green, ACT Electoral Commissioner.



## The result

The ACT's first election using **eVACS®** was held on schedule in October 2001. It involved a total of almost 200,000 votes. Over 16,000 voters cast their ballots electronically, while the remainder used paper ballots which were then data-entered into **eVACS®**.

Electronic ballots were made available in twelve separate languages: Arabic, Chinese, Croatian, English, Greek, Italian, Persian, Portuguese, Serbian, Spanish, Turkish and Vietnamese. Audio capabilities were also included to allow vision impaired electors to vote secretly for the first time in Australia.

After the election the Commission considered the use of electronic voting and counting via **eVACS®** to be a success and recommended that **eVACS®** “be made standard practice at ACT elections.” In 2006, following two casual vacancies and another Legislative Assembly election, **eVACS®** continues to be used within the ACT.

Green believes the voting and counting system has resulted in many advantages for ACT's voters and for the Electoral Commission. “**eVACS®** dramatically reduces the proportion of votes that are unintentionally spoiled or made informal. The electronic voting component removes difficulties associated with illegible handwriting and the problems of numbering errors on a ballot, eliminating unintentional mistakes. It is still possible to cast an informal vote, but **eVACS®** warns you and asks you if you really want to do this. For voters it's a better way of maximising their votes, ensuring that their ballot is counted in the way that they meant it.”

Green is also pleased that the Commission has now been able to extend one of the mainstays of modern elections – the secret ballot – to blind and sight impaired voters through the **eVACS®** introduction of touch keypads and headphones with voting instructions.

For the Commission, the benefits of **eVACS®** are simple. Counting votes has become faster and far more accurate. For the first time in the ACT, interim distribution of preferences can be made on election night, thanks to electronic ballots.

The Commission is far more confident about the outcomes they are achieving and that the delays through recounts – such as the one which occurred in 1998 – can now be avoided.

One additional benefit for the Commission has been the speed with which casual vacancies in the Legislative Assembly are filled. Should a sitting member resign from office mid-term the ACT does not conduct by-elections, choosing instead to go back to the original ballots that elected the vacating member, count preferences and identify who was next most preferred candidate for that seat. The process is designed to preserve the proportional representation outcome. Using **eVACS®**, identifying the new member can be achieved within minutes rather than days or weeks.

Green concludes, “Originally what we were looking for was a better way of voting. I think we've achieved that.”

Photography courtesy of the ACT Electoral Commission

