

# CASE STUDY: VICTORIAN ELECTORAL COMMISSION

MapInfo enables Victorian Electoral Commission to offer a powerful web-based voting centre look-up facility



“Thanks to MapInfo’s MapMarker and SpatialWare, VEC’s mapping division can offer the VEC really powerful solutions for some of its business problems, and we can be more innovative in the way we manage our data.”

*Miria Kostiuk, Boundaries and Mapping Team Leader, Victorian Electoral Commission*

## Summary

### CHALLENGE

The Victorian Electoral Commission decided to establish a special web site so that the general public could access election-related information. The web site would incorporate a voting centre look-up facility, which would have to deal with a high number of daily hits.

### SOLUTION

Already a heavy user of MapInfo Professional, the Victorian Electoral Commission purchased MapInfo products SpatialWare and MapMarker from Digital Mapping Solutions. DMS was engaged to provide consulting services to implement the voting centre look-up system. This was ready in time for the November 2006 State election, and finished early enough to allow it to be stress tested to prove that the system was robust and usable.

The Victorian Electoral Commission (VEC) is an independent statutory authority that conducts state elections and by-elections as well as local council, commercial and community elections in the state of Victoria, Australia. It also conducts boundary reviews, maintains the Victorian electoral enrolment register, conducts electoral research and provides education services. The Commission usually employs 60 people, although this increases leading up to an election.

The state is divided into 88 districts for State Legislative Assembly (Lower House) and eight regions for State Legislative Council (Upper House) voting purposes.

As the Victorian Government started to combine municipalities into new areas in the late 1990s, part of the process meant boundaries had to be drawn internally for each of the municipalities. The Municipal Commissioners who were responsible for setting up the new municipalities didn’t have the tools or ability to model boundaries that they could then consider and offer the public for consultation.

The VEC was able to help by having access to a MapBasic-MapInfo Professional boundary modelling system developed by the State Surveyor General for use at State and Commonwealth redistributions.

Historically, the VEC’s Electoral Enrolment Branch did much of its work on hard copy maps. When boundaries changed, new maps were drawn. When someone new was added to the electoral roll with a new address not already on the database, the team would have to determine which State electorate, Local Government area, Jury District and Census Collector District it was in.

The VEC’s mapping department is a “fairly hefty” user of MapInfo Professional, according to Electoral Enrolment Branch manager Paul Strickland. “The Enrolment Branch has around 15 staff, including three in the mapping team,” he said. “We developed skills in producing artwork, maps and modelling boundaries for electoral purposes with the aid of MapBasic and MapInfo Professional. That was really the start of seeing what spatial data could do for us.”

MapInfo partner Digital Mapping Solutions (DMS) installed IntraMaps – a web-based mapping program – in 2003. This use of electronic maps assisted enrolment officers greatly in their day-to-day work and enabled them to access additional information more quickly and easily, Strickland explained. “We just keep finding new ways of using this technology in our process,” he said.

### Challenge

With an election looming in November 2006, the VEC decided to establish a special web site so that the general public could access election-related information. The web site would incorporate a voting centre look-up facility, which would have to deal with a high number of daily hits. This would help alleviate demand on the VEC phone enquiry service which, in the two weeks leading up to the 2002 election, had taken 17,000 calls about the location of voting centres.

### Result

In March 2006, the Electoral Enrolment Branch requested quotes, examined a number of offerings from various providers, and purchased MapInfo SpatialWare and MapInfo MapMarker from DMS.

## THE MAPINFO ADVANTAGE



MapInfo Corporation is a global company that integrates software, data and services to help organisations realise greater value from location-based information and drive more insightful decisions. MapInfo solutions are available in 20 languages through a network of strategic partners and distribution channels in 60 countries.

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According to Miria Kostiuk, VEC Electoral Enrolment Branch Boundaries and Mapping Team Leader, DMS agreed to assist the branch with the voting centre look-up concept as well as the software installation.

“They are a very valuable resource,” said Kostiuk. “They made a commitment to getting to know our systems, understanding them, sharing their knowledge and including us in the development process. They were keen for us to have our own expertise.” To this end, one of the branch’s own mapping officers now specialises in writing queries and troubleshooting.

The server version of MapMarker was chosen because the team had its own specific requirements for geocoding, Kostiuk explained. “The server version allowed us to actually build it ourselves,” she said. “The fact that it was available without the front end was an important and attractive aspect of the product for us.”

DMS and mapping team personnel spent some 15 days over three months working together to refine the actual query. How to approach the data was the challenge, according to Kostiuk. “We had many particular and complex requirements to do with voting centres being within districts, early voting centres, e-centres and election managers’ offices which operate as early voting centres. We had to decide how to deal with all these different categories and what business rules we wanted to apply.

“We had wanted to develop a voting centre look-up system for a long time,” Strickland added. “Now we had the tools and technology to do that, although we didn’t buy them solely for that purpose.”

The voting centre look-up system was ready in time for the November 2006 election – early enough to allow the team to run some stress tests to prove that the system was robust and usable.

To find the nearest voting centre, the user enters an address on the web page form. Unlike a similar look-up site for New York, where the user has to enter an enrolled address before the nearest voting centre information can be retrieved, a user can enter any valid private or business address in Victoria – a major advantage, according to Kostiuk.

The data is submitted to the VEC web server, which then passes the query to the Electoral Branch’s mapping server. The address is geocoded in MapMarker, and SpatialWare runs a stored procedure to ‘find the nearest’ points that represent voting centres. The list of the nearest voting centres are then returned to the web server, along with .gif maps pre-generated by MapInfo Professional of the geocoded voting locations, and are displayed to the web user.

According to Kostiuk, one of SpatialWare’s big advantages is its stored procedures. “Sometimes a really big query using our previous configuration would take weeks,” she said. “With SpatialWare, we now do those queries much more quickly and efficiently. There’s certainly a learning curve involved, but it’s very flexible in the types of queries it can handle.”

The enrolment register, which holds electors’ addresses and other details, is on a Microsoft SQL server. The election management system – also on a SQL server – holds a range of business information, voting centre locations, election manager details, as well as District and Region information.

The Electoral Enrolment Branch plans to geocode all electoral addresses in due course. Each address will have a mapping point to represent it. The code of that mapping point will be linked to its associated record in the enrolment register, allowing recoding of districts. Kostiuk explained that recoding addresses to new district boundaries would then be a much easier process.

“We will have to get to the stage when we link those databases together, where we apply spatial queries onto our business databases. We will be able to use MapMarker and SpatialWare to achieve those things. This adds a new dimension to how we operate and manage our data.”

Kostiuk said that MapInfo’s MapMarker and SpatialWare had allowed the mapping team to harness more power and extract more out of its spatial data and software. “Because of this, VEC’s mapping division can offer the VEC really powerful solutions for some of its business problems, and we can be more innovative in the way we manage our data,” she said.