



PAPER TO DIGITAL – PART 2

IN THE MAY ISSUE WE DISCUSSED THE OBJECTIVES BEHIND THE CREATION OF A NEW DIGITAL MAPPING SYSTEM FOR THE PROPERTY REGISTRATION AUTHORITY (PRA) IN IRELAND. THIS FINAL INSTALLMENT DETAILS HOW THIS WAS ACHIEVED; THE TECHNOLOGY BEHIND THE PROJECT, THE BENEFITS IT HAS ALREADY STARTED TO DELIVER AND THE FUTURE FOR THE PRA AND ITS CUSTOMERS.

Delivering the necessary requirements involved taking PRA from using paper maps and tracing paper through to a fully operational digital system. The solution was also required to work in conjunction with ITRIS (Integrated Title Registration Information System; PRA's major internal electronic registration and casework support system) and *landdirect.ie* – the web portal through which the PRA provides a range of online services to its external customers.

The challenge set for the consortium headed by 1Spatial was to design a Digital Mapping System that could be seamlessly integrated with the existing business critical systems. The approach was based on developing a web-based system and upgrading the existing Oracle infrastructure to take advantage of Oracle's native capability to store and support complex query of spatial data. The result was DMapS, a sophisticated, rules-based solution that loads, stores, updates and delivers large-scale data from Ordnance Survey Ireland in combination with captured land parcel information. DMapS offers the Ordnance Survey Ireland (OSi) integrated user functionality to allow creation and editing, and a customised user interface. The consortium's approach was based upon safeguarding the accuracy of the registrations within the map base using 1Spatial's flagship persistent server-side topology engine, Radius TopologyTM.

DMapS is a three-panel user-friendly interface that is divided into three areas showing dynamic data layers, the central mapping area and a task utility bar. The tasks are given varied levels of access to enable the organisation to determine which business processes

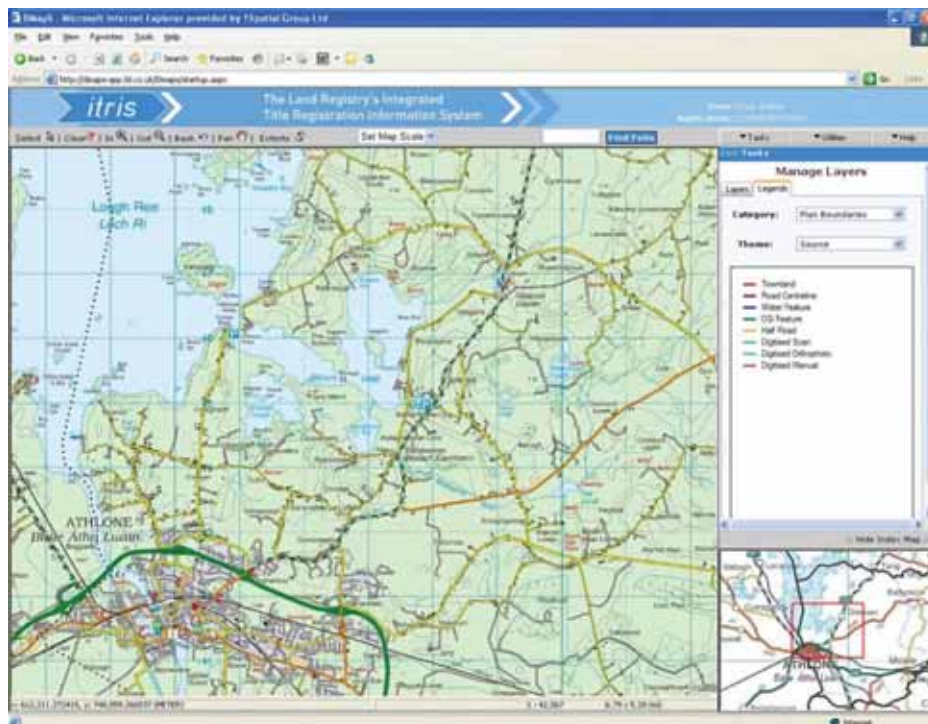
are to be carried out by different/specialist users. Bookmarks can then be placed within the mapping area of the system to enable users to efficiently return to their own areas or responsibility.

DMapS provides a full audit history of Land Parcels providing a complete genealogy of each parcel, and also enables spatial querying of Land Registrations through a web interface by external conveyancers. Changes are made in real time and once saved are then instantly viewable by the rest of the organisation. The intelligent search facility allows users to break away from indexes and grid references they were used to using on their paper maps to an electronic search facility.

Searches of the database can be performed either by typing in an address or by "zooming in" from an aerial map, allowing users to see Ordnance Survey Ireland (OSi) details, registered boundaries and photographs right down to street level, in much the same way as when using the popular online application Google Earth. The PRA has licensed the entire suite of orthophotographs, based on aerial photography of the entire country, from the OSi for this purpose.

The Results

The move to digital mapping has had a huge impact on the PRA. In recent years there has been an unprecedented increase in the volume of property transactions that they



Land Registry Integrated Title Registration Information System

have processed. The number of legal transactions alone, completed per annum grew from 98,479 in 1999 to 221,815 in 2006 – an increase of 123,336 or more than 125%.

Today over 80% of the PRA's non-registration services are provided through *landdirect.ie*, entirely on a self-service basis, with no intervention by PRA staff and no delays. Virtually all of these applications

now issue within 24 hours of the application being made. The remainder (where physical certificates or products are required) can be applied for on-line and delivered through a process that is almost completely automated.

The success of the PRA's electronic services is evidenced by the high level of usage and the growing number of






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Important Deadlines:

May 20, 2007 — End of Early-bird registration
 September 20, 2007 — Deadline for abstract submission

Organizing Committee:

Build 1, 5/22 Rossolimo Street, 119021 Moscow, Russia
 Phone: +7(495)246-38-53 • Fax: +7(495)246-25-93
 E-mail: conference@scanex.ru
www.transparentworld.ru/conference

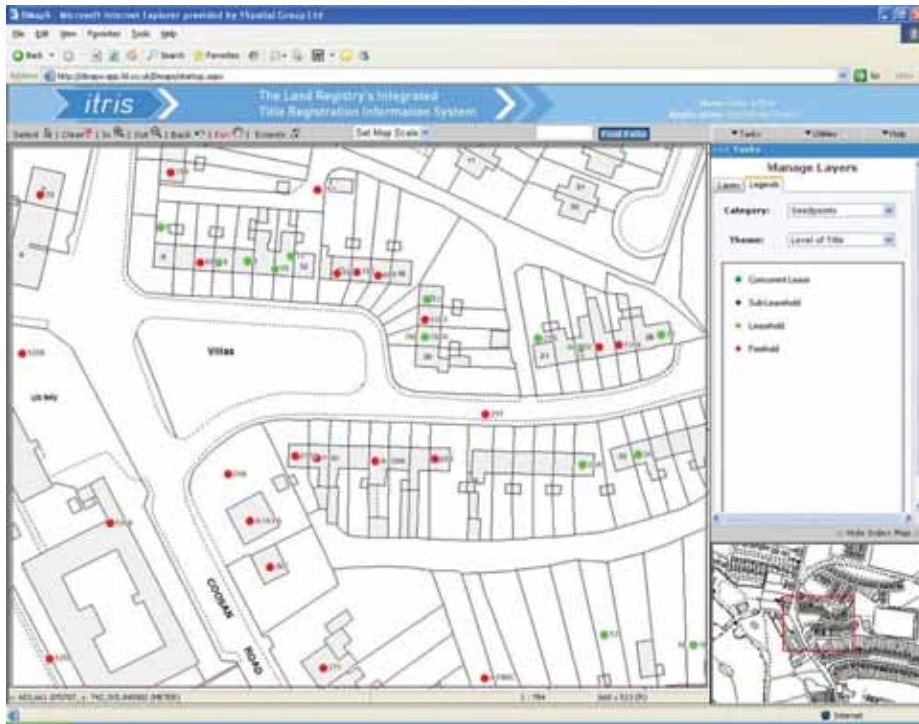
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Available land parcel information within the Information System

subscribers, which now exceeds 11,000. By the end of 2006 more than 4,000,000 fee-paying transactions had been conducted online with a similar number of non fee-paying transactions also undertaken.

In addition to the services already available on *landdirect.ie* with the introduction of Digital Mapping, the PRA now offer its customers Ireland's first national database of land related information online which has been incorporated into the suite of services already available. The service now provides customers the capacity to:

- Search and locate property using an online digital map
- Use the property index to find an address and locate a title record
- View & print folios and 'filed plan' maps
- Obtain details of pending and completed applications
- Conduct names index searches
- Request official certified copy folios and filed plan maps
- Order official copies of Instruments
- Track progress of applications during lifecycle
- Submit applications for registration online (e-lodgement)

Digital Benefits

The major benefits to customers of digital mapping as opposed to paper mapping are obvious and attractive, and have helped to expedite the take up of *landdirect.ie*. They include:

- Improved timeliness and speed of service: conducting inspections of folios and filed plans is now instantaneous and copying services have become virtually automated. *landdirect.ie* has also

contributed to a reduction in the time taken to process certain applications, especially where applications for registration are made electronically

- Improved convenience through extended hours of availability: the *landdirect.ie* service is available between 8 am and 8 pm, Monday through Friday, whereas services through public offices are confined to between 10.30am and 4.30pm
- On-line data is far more usable and flexible than paper-based records: desktop delivery of Land Registry information has improved the support that the PRA's customers can, in turn, provide to their customers

Improved service through Local Offices: for example, the Local Offices based in the Circuit Court offices in each county can now access information relating to the entire country rather than their own county only. Also, it is now possible to view certain map records from these offices for the first time

The on-line access programme has also assisted other Government Departments and agencies, such as Courts Service, National Roads Authority, and Local Authorities to improve their own business processes.

Digital mapping has also brought several benefits to the PRA itself, including:

- A greater ability to cope with the expanding demands for services: due to the growth in applications in recent years, an online service delivery channel such as the *landdirect.ie* has been essential
- An improved perception of the PRA to

their customers

- More responsive customer relationship: delivery of online services has enabled the PRA to develop a closer understanding of customer expectations
- Providing the opportunity for the PRA to communicate its own requirements to customers: expected to lead to lower levels of error in the documents presented by customers
- The promotion of greater flexibility within the PRA: resulting in improved workflow processes and improved turnaround times for casework
- The promotion of further use of IT within the title registration process: a factor that will become particularly relevant in the lead up to eConveyancing
- Facilitated PRA membership of the European Land and Information Service (EULIS): the PRA expects to be in a position to offer live services through the EULIS web portal www.eulis.org in the first half of 2007.

Two e-Government awards in 2005 acknowledged the success and effectiveness of the work completed to date for the delivery of online services. More recently, the PRA has again won Best Project in the 'State Body' category of the Irish e-Government awards 2007 in respect of the Digital Mapping project. The 2007 Innovation Through Technology Awards (run by Inside Government magazine) saw the PRA win Best Project in the 'Government to Business' category. 1Spatial and the PRA also received the Association of Geographic Information (AGI) Award in London, in November for "Innovation and Best Practice". The Award encourages best practice and the implementation of pioneering technology within the geographic and spatial information industry. The essential criteria for the award included evidence of added value, improved levels of service, reduced costs and user satisfaction.

For the PRA, the ongoing roll out of digital mapping is part of the Authority's programme to implement a world-class suite of information and communications systems. It is expected to support a new paradigm of service delivery and may bring about significant changes in how the PRA processes its casework and interacts with its customers. Land management is now truly benefiting from 21st century technology, and the move from paper to digital mapping continues to open up exciting new opportunities.

Graham Stickler is Product and Marketing Manager Director, 1Spatial.

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