

Harmonisation between the mapping agencies of Britain and Ireland on spatial information

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Setting the Scene

Ordnance Survey was created as an organisation in 1791 to be the national mapping agency for Britain and Ireland. Great progress was made in mapping the land mass of Britain and Ireland, and similar scales and specifications were used. However, in 1922, the organisation was split into three separate organisations with responsibility for Great Britain, Northern Ireland and Ireland respectively. Each organisation has developed separately over the last 80 years, and the result is that each now has different data specifications, data models and data products.

In late 1999 the three organisations met to identify business areas which would benefit from closer collaboration. The pressures for this were threefold. Firstly they were from our customers. Many of them had a need for data for all of Britain and Ireland and were having considerable problems in finding out where to get the data from and how to integrate the differing datasets. Secondly there was a political pressure. In December 1999 the British-Irish Council sat for the first time. Topics identified as suitable for closer collaboration included e-commerce, environment and transport – all areas which would benefit from spatial information. Thirdly there was a general move towards standardisation both nationally and at European and international levels.

The Collaboration

At the initial meeting, the three organisations agreed that they should focus on database specifications and database delivery formats with the aim of making it easier for both customers and system suppliers and integrators to access, use and maximise benefit of the data across the nations. The aim was to harmonise the databases. The choice of the word was significant. The aim was to establish a framework within which each organisation could implement its own database. A 'harmony' is a combination of different sources which work well together, not a collection of identical factors which behave and sound the same. That would make for monotony!

Stage 1 of the work falls into the following areas

- Terminology
- Database comparison
- Product comparison
- Identifiers

- Provision of information

Terminology

Early on in the collaboration, we found that each organisation was using similar terms but each interpreted their meaning differently. This is a salutary lesson for terminology in Europe, as here we had three English-speaking organisations with a common history, who still found it difficult to understand each other! An immediate action was to agree a common set of terms to establish consistency. Existing mainstream definitions, such as those from OGC, were used wherever possible.

Database Comparison

The database structures and content of each organisation have been compared. A common set of descriptions and codes has been developed against which each organisation can tabulate what it has. So, for example, a user can find out how each organisation deals with administrative boundaries.

Product Comparison

In order to find out details of Ordnance Survey mapping, and in particular large-scale digital vector data for the UK and Ireland, customers traditionally have had to contact each of the three National Mapping Agencies individually. Whilst all three organisations can provide the customer with its own individual datasets and technical information, there are, at present, no guidelines or information to assist in the creation of a homogeneous coverage. A key part of the collaboration therefore was to develop a joint approach to producing and disseminating discovery level metadata. This collaboration enables customers to quickly ascertain if similar type of data is available from each of the three organisations, and if data is available what features that data will contain. For example, an organisation that purchased Land- Line® from OSGB and wished to obtain equivalent data for Ireland, South and North, should be able to see at a glance the availability of similar data from OSI and OSNI, together with data descriptions and ordering information. This common approach across UK and Ireland will not only facilitate Ordnance Survey customers in identifying the data which best meets their needs, but will also help the individual Mapping Agencies identify possible gaps in our product ranges. It should also improve the commonality and consistency of content and output of the three organisations.

Identifiers

The key to database technologies is the use of unique identifiers. It was clear to the group, that if others were to use data from the three organisations in an integrated way, then consistent identifiers would be required. All three organisations had already introduced systems of unique IDs. In some organisations there was already more than one system. The aim was to move to one common maintained identifier system for the British-Irish landmass.

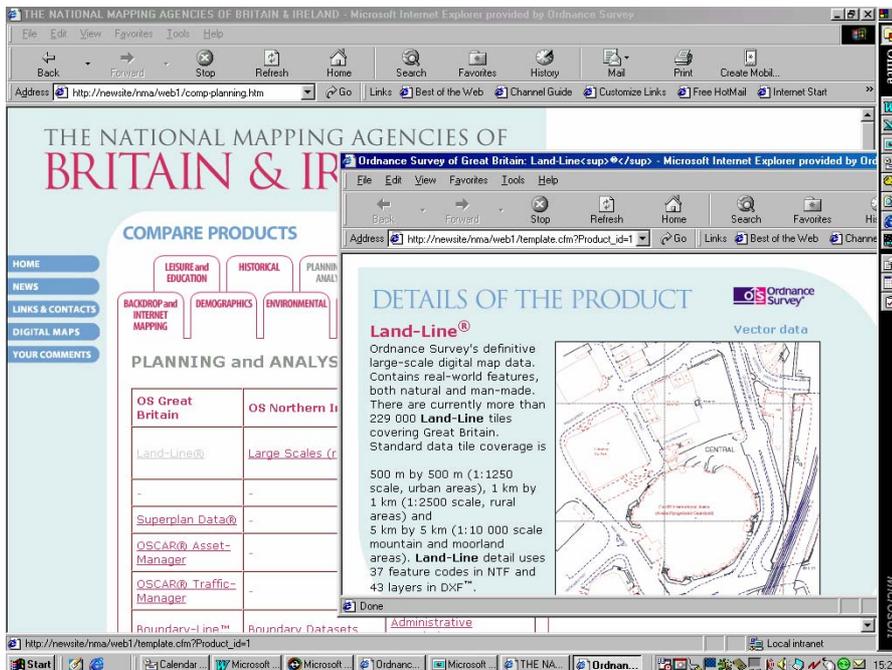
The common approach agreed has been to use the TOID (topographic identifier) developed by Ordnance Survey Great Britain for its Digital National Framework. This is a 16 digit unintelligent number. Blocks of number have been allocated to each organisation. In the last year, we have introduced them into the OSGB products.

Providing this information to users and customers

All this information has been presented to users and customers through a website (www.osmaps.org) which was launched in late 2001. This is the home page from which users can access both the metadata within the website, and also links to the websites of the individual organisations:

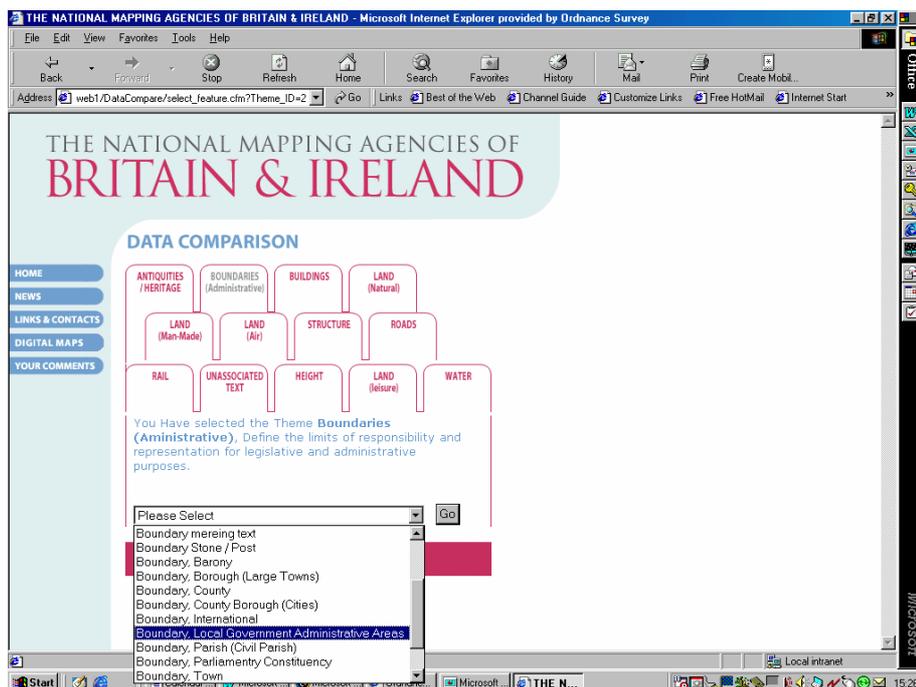


Clicking on the Product Comparison takes the user to:



where the user can then get information on the individual products.

Clicking on the Technical Zone takes the user to:



from where the user can find information on how each organisation deals with that specific feature.

What next?

Following the launch of the website, Directors General of the three organisations agreed to Stage 2 of the collaboration which was to work towards the:

- Creation of common theme structures and feature codes
- Creation of harmonised output formats
- Adoption of a common feature identification scheme

This stage aims to further develop the framework within each will work. It does not cover the implementation by the individual organisations which will be progressed separately and in line with the business plans of each. It is highly unlikely that the individual implementations will be identical given the varying priorities of each.

After the quick wins of the website information, progress on Stage 2 has been slower. This is due to a number of reasons including movement of key personnel, other priorities coming to the fore after the achievement of the quick wins, a weakening of the political drivers, and, arguably, the fact that it is collaboration and lacks clear leadership.

Lessons Learnt?

This alliance between three organisations and two nations can provide some useful experience for wider alliances within Europe, especially as there are initiatives running which will require similar collaboration, in particular INSPIRE, and the Permanent Committee on Cadastre which was mooted in May this year. One view of the things which can be learnt follows:

- A political initiative is a useful impetus to make things happen in government organisations. In this case it was the formation of the British-Irish Council. If this political driver ceases, the momentum can be lost, so other means of pushing forward, such as customer benefit, should be identified early on.
- Individual organisational and national identities must be recognised and respected. There were some understandable tensions in the collaboration at first as OSNI and OSI, as the smaller organisations, felt OSGB may tend to drive the collaboration. Conversely things have gone more slowly recently as the collaboration has no leader.
- It is important to focus on 'harmonisation', not 'standardisation'. Standardisation tends to suggest a single way of doing things the things which in turn emphasises the areas in which organisations are different and 'do not fit'. The concept of a shared model combined with individual implementations provides the necessary commonality for those customers with a pan-national requirement and the distinctiveness necessary for each organisation to address the specific needs of their national customer bases.
- There must be a clear customer benefit to come from the alliance. In this instance all three organisations were reacting, at least in part, to customer complaints and confusion.
- Terminology and naming is an emotive issue and needs careful handling. 'Neutral' glossaries can help, and some things may have to be re-named so all parties can feel ownership.

Acknowledgement

This paper is based upon the following references;

Bray C, Mahood G, & Murray K, 2000, *The three Ordnance Surveys collaborate to improve data*, Geoinformatics, October/ November 2000

Murray K, Steenson T, & Bray C, 2001, *Better connected: the three Ordnance Surveys improve georeferencing links*, Paper 2.7 Association of Geographic Information Conference 2001

together with internal documents and input from Keith Murray and Glen Hart from Ordnance Survey Great Britain.