

Efficient Data Sharing within the Scottish Public Sector



Customer

The One Scotland Mapping Agreement (OSMA) is an overarching licence agreement that gives local and central government in Scotland access to the UK's Ordnance Survey mapping products. Led by the Scottish Government, the OSMA has a diverse membership of over 130 public sector organisations. In the interests of government efficiency, the Scottish Government is keen to:

- Drive the adoption of open data standards across the public sector to improve efficiency and inter-operability
- Deploy common technologies that can be built and procured once rather than multiple times
- Create common digital platforms for services that will encourage Scottish public sector organisations to innovate in the delivery of public services
- Make better use of cloud-based solutions as a source of both cost reduction and service innovation

Problem

In the past, every public sector organisation processed, managed and published their OS digital map data products. To that effect the Scottish Government, as the lead for the OSMA, set about identifying and procuring a more efficient way of managing and sharing the large volumes of OS data. The key goals of the project were to reduce the significant data processing overheads for members, reduce the individual organisation costs for managing data and significantly increase business value from the use and reuse of OS data.

The proposed outcome was to find a single hosted solution that would provide access to up to date, fully maintained OS data across a multi-stakeholder environment via highly performant and secure web mapping services.

“The OSMA web services, provided by thinkWhere, offer an efficient and practical way of accessing huge volumes of data.”

Ross McDonald
Corporate GIS Data Coordinator
Angus Council

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Solution

theMapCloud, from thinkWhere, includes a securely hosted, fully managed depository for geographically referenced data, in this case the core Ordnance Survey data products covered by the OSMA, effectively acting as an online 'geospatial library'. Hosted on a Cloud infrastructure, offered by Amazon Web Services (AWS) and managed by thinkWhere, theMapCloud supports highly reliable, scalable and performant web services, as required by the Scottish Government and OSMA members.

The OSMA products are supplied, or accessed, through a Web Map Service (WMS), Web Map Tile Service (WMTS), or Web Feature Service (WFS) using credentials that are unique to each member organisation. Additionally thinkWhere has developed an OSAddressBase Search and OSMA users are currently running a pilot project to test an OS MasterMap WFS.

Architected using Open Source technologies and frameworks, including PostgreSQL, PostGIS, GeoServer and MapProxy, the thinkWhere services are all fully compliant with the appropriate OGC standards.

In Action

The Web Services developed for the Scottish Government and OSMA members by thinkWhere cost- effectively and efficiently streamline data distribution across all OSMA member sites. They are proving to be a speedy and effective way of accessing OS products using the existing software and infrastructure of the OSMA members. This includes access to data via desktop GIS (such as QGIS or ArcMap) or web clients including OpenLayers. The web mapping service provides easy, on-demand access to background maps with WMTS tiles or rendered WMS images delivered as raster files making them quick to display. This means they are ideal for plotting additional information, georeferencing other attributes and as contextual background mapping.

The WFS services provide access to OS AddressBase premium - a data product containing detailed address records for the whole of Scotland. thinkWhere's Search API offers dynamic querying and address records that can be extracted by geographic location, postcode, address lines or UPRN (Unique Property Reference Number).

- Cost effective shared service utilising Open Source and Web Service technologies
- Data is securely hosted by thinkWhere who manage all updates from issuing organisation
- Utilisation of existing software and infrastructure of member organisations
- Efficient deployment and use of large data volumes saving time and resource
- Consistent use of data across member organisations enabling joined up working

Summary

Using theMapCloud for the management, sharing and distribution of Ordnance Survey digital map data has successfully removed the previous barriers to data sharing restrictions between OSMA members and it is estimated that this has led to a threefold increase in the use of spatial data within the public sector in Scotland.

“Reliability and performance are excellent, and we have benefited from a significant reduction in the cost of maintaining our own OS data services.”

Duncan Taylor
IS Development Unit Manager
**Scottish Environment
Protection Agency**

thinkWhere use leading edge cloud, Open Source and GIS technologies, to develop innovative software and solutions, backed by a wide range of GIS implementation, consultancy, support and training services.

They provide an online platform for storing, sharing and using maps and geographic data, and help solve real-world problems using open data and open technology.