

## Product brief: IP Map

### About IPL

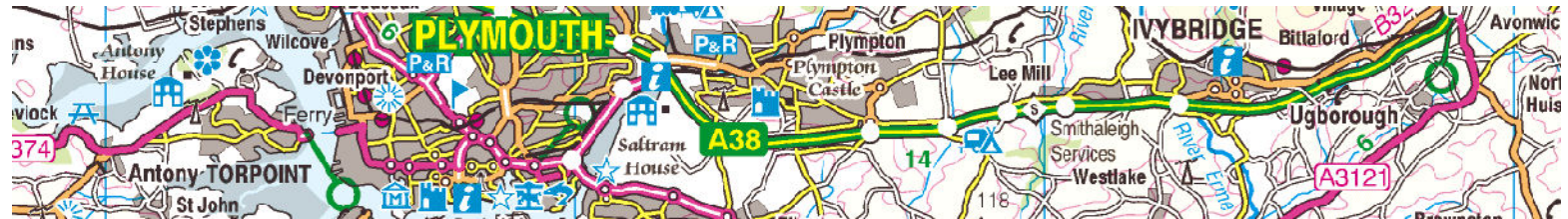
Founded in 1979, IPL has a long history of successfully delivering excellent value consultancy and end-to-end software-intensive solutions to both the public and private sectors.

IPL's consultancy is renowned for its quality and value. Our consultants are talented and independent-minded individuals with extensive industry experience. We consistently exceed our clients' expectations through a combination of imaginative thinking, managerial and technical expertise and many years of systems engineering experience.

IPL's track record in end-to-end software solutions development is exceptional. Our proven development methodology allows us to cut through technical complexity, manage risk and completely focus on delivery. We consistently deliver reliable, efficient and accurate systems to a precise schedule.

IPL is an Approved Catalyst Supplier having been awarded two key supply frameworks by OGCBuying.solutions.

IPL is an ISO9001:2000/TickIT registered company having a permanent workforce of 240, revenues of ca. £21M p.a. and 40,000 sq ft of secure office space in central Bath.



## Maps, movement and mash-ups

### Problem

There are many well known internet based map providers who also provide Application Programming Interfaces (APIs) so that browser based applications can make use of them. Some examples of these are:

- Google Maps;
- Live Search Maps from Microsoft;
- Yahoo Local Maps;
- ArcWeb Services from ESRI.

Excellent as these services are, using them to build a browser based mapping solution has its disadvantages; for example:

- Maps are entirely controlled by the provider;
- Detail is frequently limited to street level;
- Layers are not supported;
- Commercial and private use attract access charges;
- The APIs are specific to the particular mapping provider.

### Solution

IP Map is a free integration of open source tools that takes Ordnance Survey data and provides an easy to use, "slippy maps" user interface. It offers an inexpensive alternative to heavyweight GIS solutions.

Available as a simply installed VMware appliance, it can be up and running in minutes. If your organisation has access to Ordnance Survey data, such as through the MSA (Mapping Services Agreement), you can use the IP Map appliance to provide a web map interface to the data.

### Benefits

IP Map overcomes these difficulties and provides the following benefits:

- It is independent of the geospatial data source (IP Map can even connect to services such as Google Maps if required);
- No software license costs;
- Provides a very familiar user experience (panning, zooming and clickable overlay objects);
- It can render maps and geospatial data layers from many different sources, including:
  - Ordnance Survey (OS) geospatial data;
  - Other geospatial data file formats (e.g. ESRI shapefiles);
  - Databases containing geospatial data, including via ESRI's ArcSDE;
  - Industry standard Web Service protocols (e.g. the Open Geospatial Consortium, Inc (OGC) Web Mapping Service (WMS) and Web Feature Service (WFS) protocols).
- Use of open source software means we have more flexibility (e.g. bugs can be found and fixed, enhancements can be made, support from an active online community);
- The client-based JavaScript library provides easy to use facilities to customize the website look and feel, and it works with all common browsers.

Our solution is pre-configured to handle OS raster map files, as supplied to government agencies under the OS Mapping Services Agreement.

## FAQ

### How can you give this away for free?

IPL developed this product as part of our Intelligent Policing Automatic Number Plate Recognition (IP ANPR) analysis tool, where an alternative to Google Maps was required. It was useful in meeting our mapping needs and we expect it to be very attractive to our customers.

Because IP Map has already proved valuable to us, and the amount of proprietary code is small, IPL has decided to make it freely available as a marketing exercise to raise our profile within the police and government communities. Think of it as promotional media, but far more useful.

### Can we have the source and change the code?

Yes. Please do! Most of the IP Map appliance comprises a number of open source tools, freely available under various licences, and there is much more that can be done with them.

On the server side (MapServer) you can generate fancier maps, adding your own data layers on top, and even display vector data.

On the client side (OpenLayers), the JavaScript interface is well suited to adding extra controls, placing popup pins and icons on the maps, and provides functionality which is similar to that of Google Maps.

If you need assistance, IPL has a wealth of expertise in web application development and in the use of numerous mapping technologies. We can provide consultancy at all levels, from simple advice through to complete application solutions, and our sales representatives are always happy to assist you.

### Can it show OS MasterMap vector data?

Yes. We have demonstrators which show OS MasterMap vector data rendered using OS standard styles and patterns. This gives a very high level of detail at low zoom levels. Please contact us if you wish to see them in action.

## Technical architecture

IP Map is an amalgamation of several open-source mapping tools but all of these rely on many open-source GIS libraries. IP Map configures these tools and provides the 'glue' between them so that you can get the benefits of a web map interface with the minimum of effort.

Although IP Map is aimed at providing a simple web based map from raster OS data, the MapServer product is very powerful. Specifically, it is capable of most common GIS functionality, such as re-projection, importing many different formats of raster data, drawing vector data from databases and other proprietary GIS files. It is also able to import and draw vector-based maps from OS MasterMap data which show fine detail at very low zoom levels.

## System requirements

To run the IP Map appliance you will need the following:

- A host machine installed with VMware player, server, or workstation;
- OS raster data at several scales covering your area of interest;
- A client machine with a web browser to access the maps.



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