

3D realistic representation of the territory

DbMAP® Web 3D

**The best solution to build 3D representations in matter of minutes.
Forget about downloading thick-client and executables, and finally foster the power of the web**

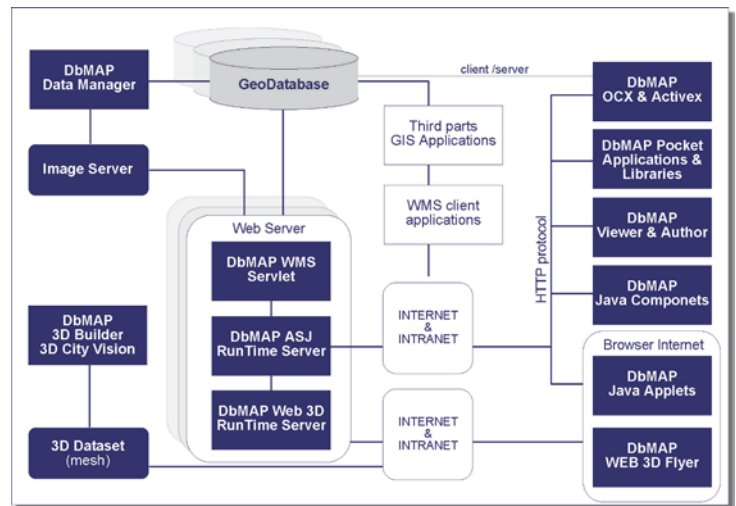
- Easily designs, creates and publishes cost-effective 2D and 3D integrated Web-GIS portals
- Uses the existing bidimensional GIS data for 3D visualization and consulting
- Takes advantage of the centralised Spatial Database's capabilities in order to receive GIS layers to use as textures for real time rendering
- Independent and scalable, thanks to its powerful multi-platform components and totally integrated with DbMAP ASJ's architecture
- Realistic representation of 3D objects (extruded objects)



For further information call +39 0376 222181
or visit <http://www.abacogroup.eu/eng/dbm3d/>

It is an extension of DbMAP ASJ and easily allows to create 2D and 3D integrated Geographic Information Systems

The innovative **DbMAP Web 3D** introduces an **additional point of view in the use of bidimensional GIS data** stored in centralised spatial databases. It takes advantage of all DbMAP ASJ's features, and consequently of the existing Web-GIS application, in order to establish a connection with any databases. DbMAP Web 3D allows users to manage, publish and consult, on the internet and in 3D, the total amount of territorial data the database may offer. Users basically **"fly" over a tridimensional model** of land published on the web and they can query on it interactively or select layers for **real-time rendering** of information. The model can also be enriched with tridimensional buildings created from the tridimensional plan (3D extruded objects), or with pre-built 3D models.



Main architecture of a 2d & 3D integrated Web-GIS solution based on DbMAP ASJ, DbMAP Web 3D and DbMAP Pocket

To understand how DbMAP Web 3D works and how its features easily integrate in a Web-GIS application architecture to foster the Spatial Data Infrastructure contained information, a detailed description follows.

DbMAP 3D Builder, is the tool needed to generate a 3D dataset, starting from DTM (Digital Terrain Model) files of several formats. In this phase the users can achieve a noticeable realistic representation of tridimensional objects and buildings, starting from the bidimensional plan provided as georeferenced Shapefile including the height value (creation of 3D extruded objects). The new **City Vision** tool tightly integrates with DbMAP 3D Builder to use images and orthophotos to texturise the sides of the extruded object. Also pre-existent 3D models created with advanced graphic editing softwares (3D Studio MAX®, AutoCAD®, etc.) can be used, having perfect reproductions of real buildings, like monument. The Builder can incorporate the models in the dataset through the **Poser** tool.

It is provided with user licence per number of workstations (number of users) and according to the area of territory to deal with (dimension of the 3D dataset).

DbMAP Web 3D Runtime Server, the server component, providing all the functionalities to find the textures and the alphanumeric data proper of the informative layers, taking advantage of DbMAP ASJ Runtime Server services.

It is provided with free user licence specific for unlimited creation and distribution (Royalty Free) of the client applications produced. Those who have created the client applications distributed on the web server must have their own DbMAP Web 3D Runtime Server user licence, supplied by the authorised developers themselves.

DbMAP Web 3D Flyer, the thin-client component to be added on a web page, works out in real time the bidimensional data coming from DbMAP Web 3D Runtime Server and those deriving from the tridimensional dataset.

It is provided with user licence per number of configurations of the web server on which it is installed and according to the area of territory to deal with (dimension of the 3D dataset). In both cases, there will not be any direct dependences on the number of applications managed on the web server.

DbMAP Web 3D Extension Kit includes DbMAP 3D Builder S100 Version user licence and DbMAP Web 3D Runtime Server S100 user licence only for application development, test and demonstration. DbMAP Developer Kit not included.

It is provided with a user licence per number of developers.

DbMAP Developer Kit, SDK providing multi-platform solution for the development of GIS applications interacting with a centralised geodatabase accessible via web and taking advantage of the usual development environments already used for building applications. OCX, ActiveX, Java components, and Java applets are available.

DbMAP ASJ Runtime Server, an extremely powerful server component offering Map and Image Server services (multi-source data), which allows the direct access to the GIS data sources to publish, whichever database they are contained in and whichever format the raster and vectorial files (ECW, TIFF and DWG) are.

DbMAP Viewer&Author, connects with the DbMAP server component via http (internet or intranet), allowing the maximum control on data, on the selection of the informative layers, on the services, on the web-pages lay-out and on the editing of the geometries. It takes advantage of the existing spatial engine and ensures the interaction with the functionalities offered by the relational database used.

DbMAP Data Manager connects with the existing centralised database to import and export Shapefiles and to create and import background images in Shape format.

DbMAP 3D Builder

It is compatible with the following Input DTM:

- Arc/Info ASCII Grid (.grd, .asc);
- Arc/Info Binary Grid (.adf);
- GeoTiff (.tif);
- USGS ASCII DEM (.dem);
- Surfer Grid (.grd).

The user may take advantage of:

- A graphic interface;
- 2D navigation (zoom and pan) of imported **DTM**;
- **Merge** of several DTM into the same project;
- Creation of a 3D **dataset** for DbMAP Web 3D Flyer;
- Advanced **correction** of the invalid Input DTM points;
- Resolution of **T-Junction** and **Crack** through algorithms of saturation;
- Import of **Shapefile** data to generate **extruded objects**;
- **Topological solution algorithms** of the data used for the generation of extruded objects;
- **Texture** application option for the buildings;
- Import of data from **City Vision**.

DbMAP Web 3D Flyer

The main capabilities are:

- **Multi-resolution** texture compatibility;
- **Data Streaming** via http of the 3D dataset built with DbMAP 3D Builder;
- **Independence** from server, as the 3D dataset is directly downloaded from a virtual web directory;
- **Multi-language** configuration;
- Use of **Macromedia Shockwave Player®** for web pages;
- **Compatible** as .exe for Windows;
- **Visualization** of the **textures** composed of more informative layers, vectorial maps and raster images;
- No pre-processing required by the textures, as they are obtained in **real time** through DbMAP Web 3D servlet;
- **Dynamic** 3D projects;
- Visualisation of projects distributed **via web** or by **CD/DVD**.

The user may take advantage of:

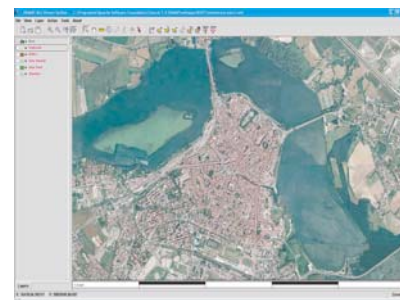
- **Realistic 3D navigation** with collision control;
- **Real time analysis of the territory** to know identify slopes, direction, difference in altitude, areas, 2D and 3D distances;
- **Queries** (in motion as well) of the informative layers;
- Navigation by **place-names** associated with specific geometries deriving from **SQL queries** directly executed on the centralised **database**;
- **Customizable** data forms compatible with DbMAP ASJ;
- Dynamic **localization** of the initial point of view;
- **GIS Layer** list coming in real time from the centralised database.

DbMAP Web 3D Runtime Server

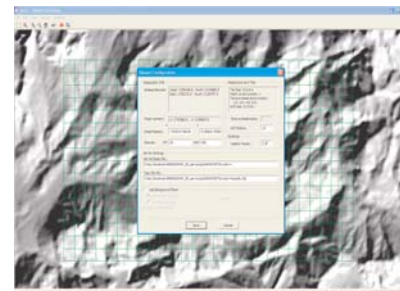
The main capabilities are:

- Compatibility with the Web Server and **Java/J2EE** containers of the most popular operative systems, like **Windows**, **Linux** e **MacOS**;
- The **textures** are all obtained from DbMAP ASJ Runtime Server, therefore:
 - Vectorial data may reside on **Oracle Spatial**, **Oracle Locator**, **PostGIS** and **SDA types**;
 - Raster images may either be **ECW**, **GeoTIFF** and **DWG**, or they may derive from external Image Servers like ErMapper IWS.

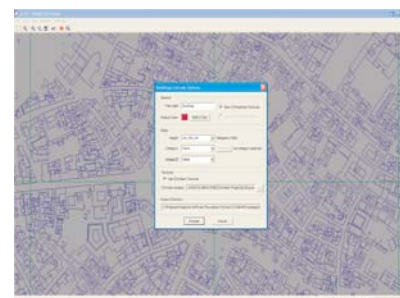
A few steps to create a 3D Web-GIS



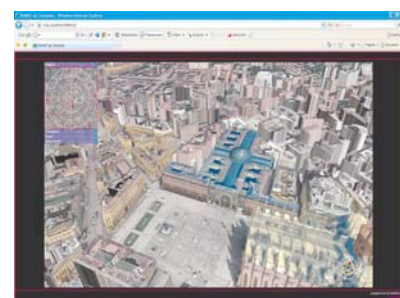
Use DbMAP ASJ Viewer & Author to build a project to visualise the bidimensional data to publish on the web.



Use DbMAP 3D Builder to generate a 3D dataset of the territory to publish in the virtual directory.



Use DbMAP 3D Builder to generate a 3D dataset of the buildings to publish in the virtual directory.



Use DbMAP Web 3D Flyer to real time navigate and consult the 3D model of territory generated.

SHORTCUTS

ON-LINE DEMOS

<http://www.abacogroup.eu/dbm3d/engdemos.htm>

DOCUMENTATION

<http://www.abacogroup.eu/dbm3d/engdoc.htm>



Technical Features:

The main technical features of the system are:

- Compliance with OGC (Open Geospatial Consortium) requisites;
- OpenGIS® Web Map Service Implementation Specification, Version 1.1.1;
- Compatibility with the most common operative systems (Windows, MacOS, Linux)
- DbMAP ASJ web components can be used with any internet browser; no installation or additional plug-in required; Java 1.1 virtual machine (or later) is required;
- DbMAP Web 3D client component requires Macromedia Shockwave Player;
- Server components require Java 1.4 or later and are compatible with the most common web servers and Java/J2EE containers, like Oracle AS, Apache Tomcat, IBM Websphere, etc.

Specific for:

- Developers and technicians of those companies and Public Administrations that use Web-GIS portals to distribute territorial data;
- Database Administrators of those companies and Public Administrations that need to centralize and administrate spatial databases;
- Developers and technicians of those companies and Public Administrations whose purpose is to integrate their own solutions.

ABACO is an Italian company specialized in the research and development of basic technologies which have made it one of the leaders, in Italy and worldwide, for GIS, mapping, Global Positioning System, Computer Aided Design, Facility Management and Technical Documentation System.



PRODUCTS	Price List
DbMAP Developer Kit (single end-user licence)	C 2.400
DbMAP Web 3D Extension Kit (single end-user licence)	C 2.400
DbMAP Viewer & Author (single end-user licence)	C 500
DbMAP Web 3D Flyer (single end-user licence)	Free
DbMAP Web 3D Runtime Server*	
S100 (for a maximum area of 100 Km2)	C 3.800
M3000 (for a maximum area of 3000 Km2)	C 6.000
NoLimit (for an unlimited area of territory)	C 12.000
DbMAP 3D Builder (single end-user licence)	
S100 (for a maximum area of 100 Km2)	C 2.200
M3000 (for a maximum area of 3000 Km2)	C 3.800
NoLimit (for an unlimited area of territory)	C 5.000
DbMAP 3D City Vision (single end-user licence)	
S100 (for a maximum area of 100 Km2)	C 2.200
M3000 (for a maximum area of 3000 Km2)	C 3.800
NoLimit (for an unlimited area of territory)	C 5.000

(*) Including an embedded DbMAP ASJ Runtime Server licence
 (**) Special discounts for partners;
 (***) Special price for the server component, if sold as integrating part standard applications.

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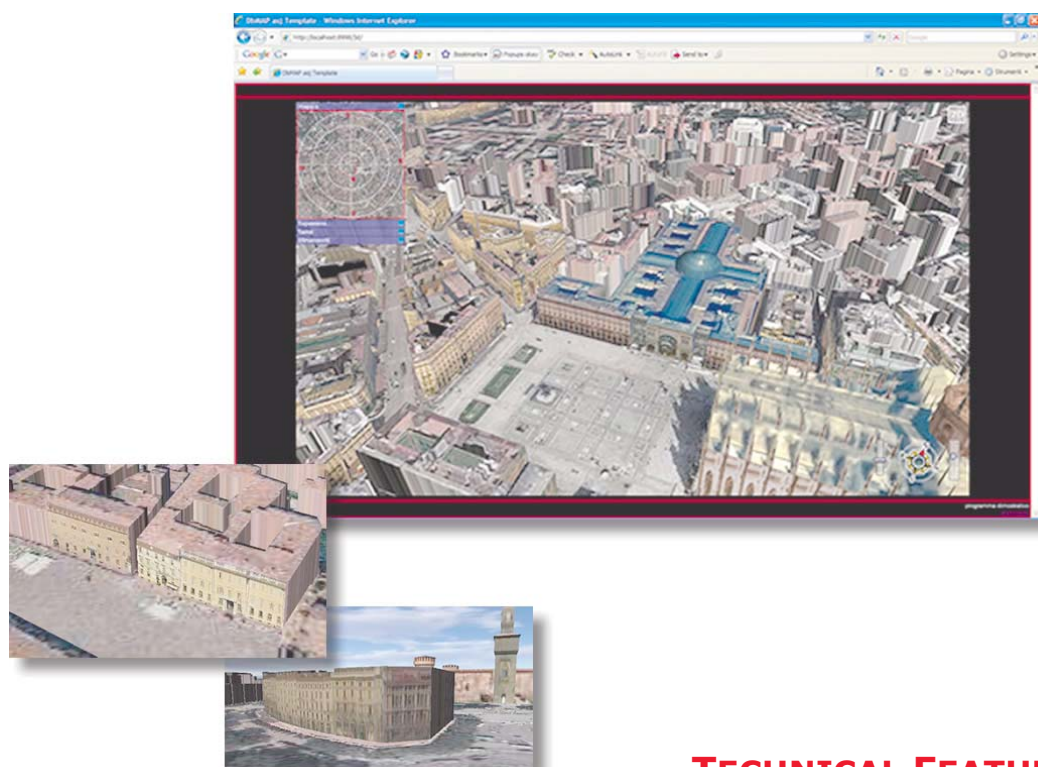
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DbMAP Web 3D City Vision

It is a brand new and innovative application within the DbMAP Web 3D suite. It perfectly integrates with the other components and allows to re-use all the bidimensional territorial data, either stored into an existing centralised geodatabase or available on a Spatial Data Infrastructure, to generate most of the textures needed to either **represent an extremely realistic urban area, or the portion of a territory.**

Vision can manage orthophotos and Shapefile images (or even any Bitmaps or not-georeferenced JPGs - digital pictures, 360° and perspective photos, etc.), which contain information about the height of the buildings and of the objects located on the area to show.

The tool allows any developers **to attach realistic textures to the facades of extruded buildings** created by the Builder.



TECHNICAL FEATURES

- Uploading of **georeferenced orthophotos**
- Uploading of **Shapefile vectorial data**
- **Topological correction** of Shapefile vectorial data
- **3D preview** of single buildings and agglomerates
- **Use of .ipg photos** for realistic facades
- **SAVE function** for the resulting data for the DbMAP Web 3D Builder input



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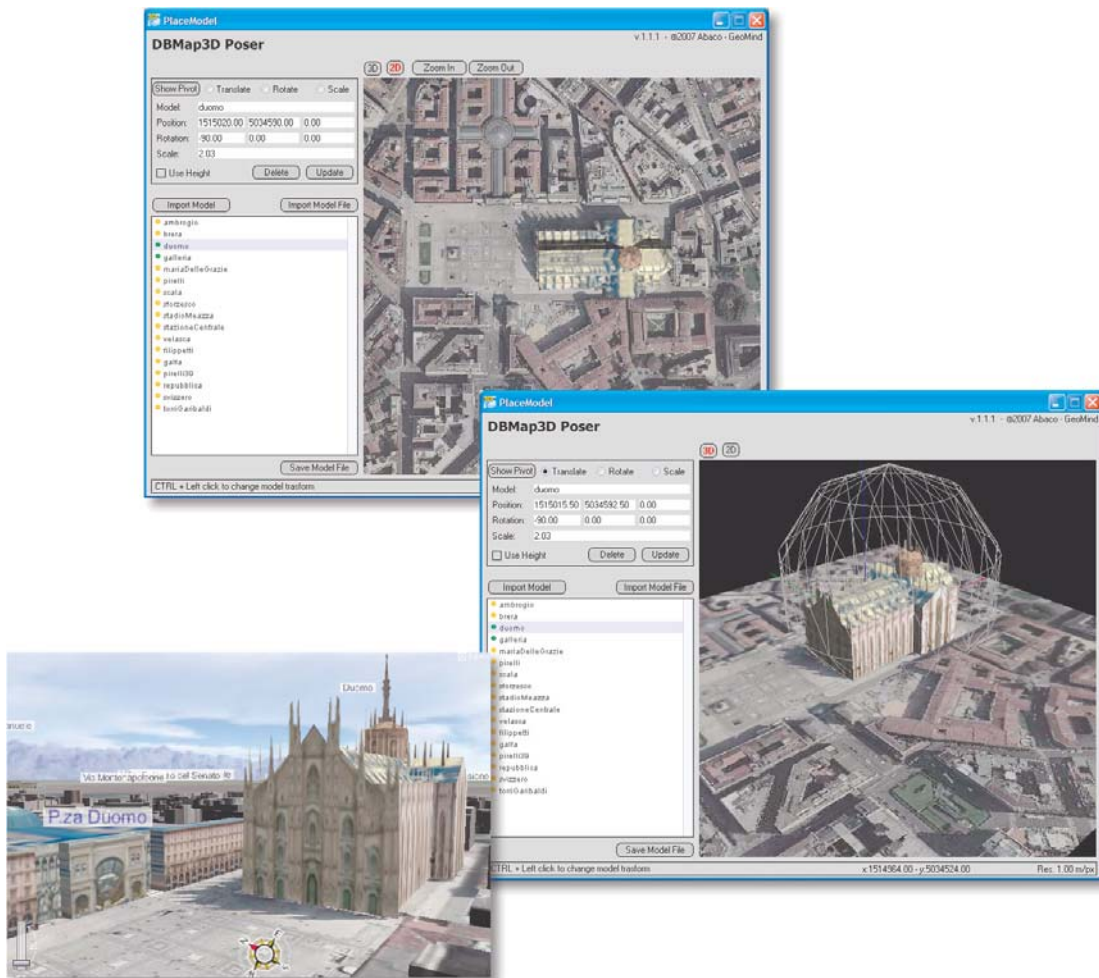
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DbMAP Web 3D Poser

Application that **works strictly together with DbMAP Web 3D Vision**, to **insert, pose, and scale 3D models** (monuments, bridges, progetti, simboli, ecc.) previously created with any type of 3D graphic editing tools (for example, 3DStudio MAX®); they are then converted into a file format compatible with Shockwave®, in 3D dataset.

Poser offers both a **bidimensional and a tridimensional preview of the territory**, in order to ease the visual positioning of the models.



TECHNICAL FEATURES

- **.w3c and .cst 3D models** supported
- **CST archives** supported
- Connection with **DbMAP Web 3D raster server**
- Connection with a **generic raster server**



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