



**Google Earth**  
**Digitale Wege in eine bekannte Welt**  
**Sep. 2006**

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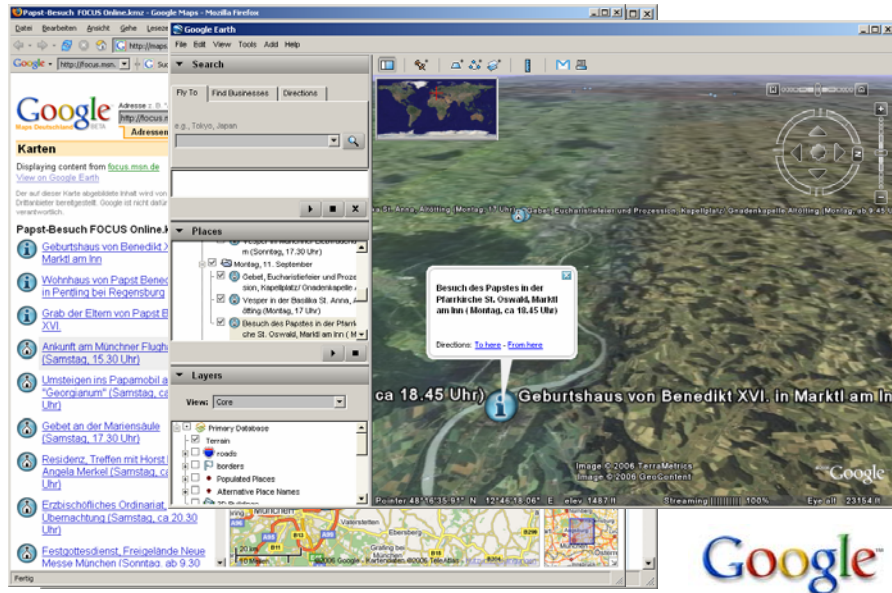
Joachim Glaubrecht | Google Enterprise | joachim@google.com

What is Google Enterprise?

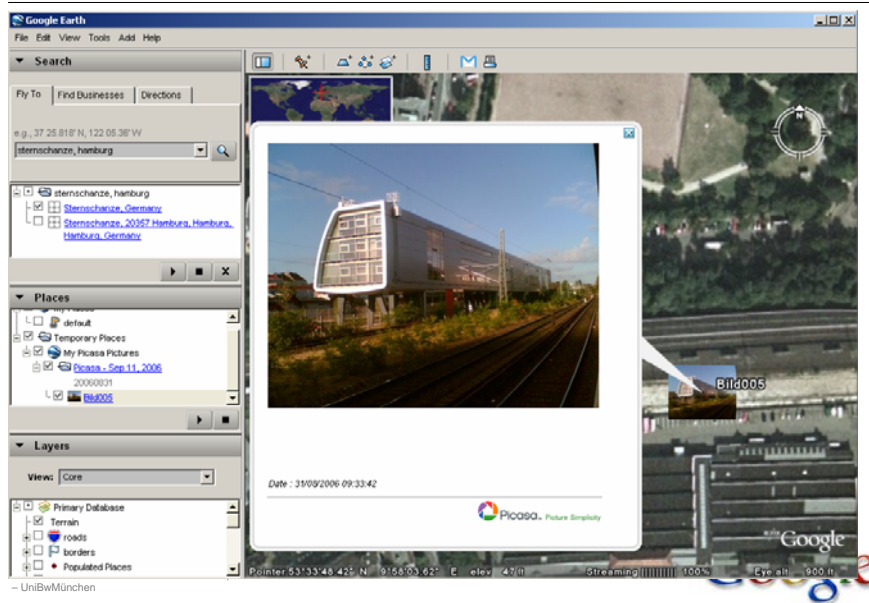
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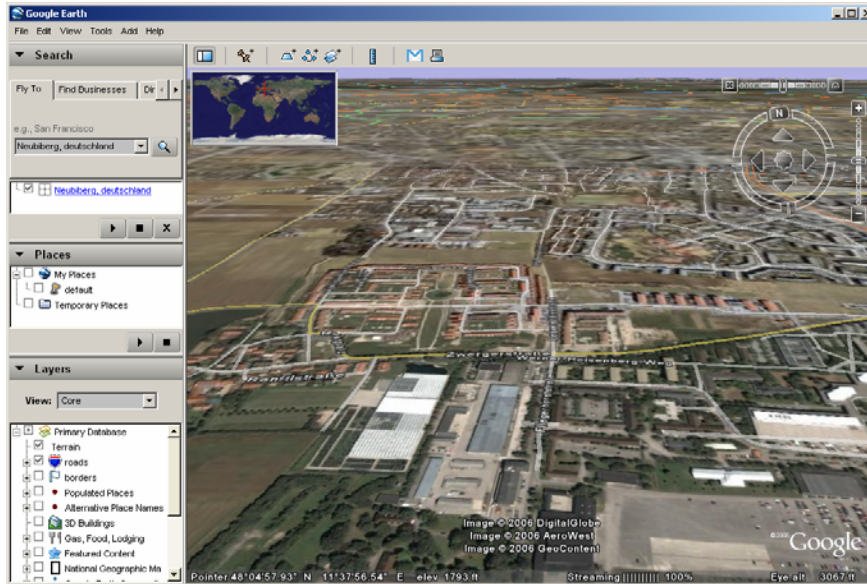
## Focus.de: "Der Papst-Besuch in Google Earth"



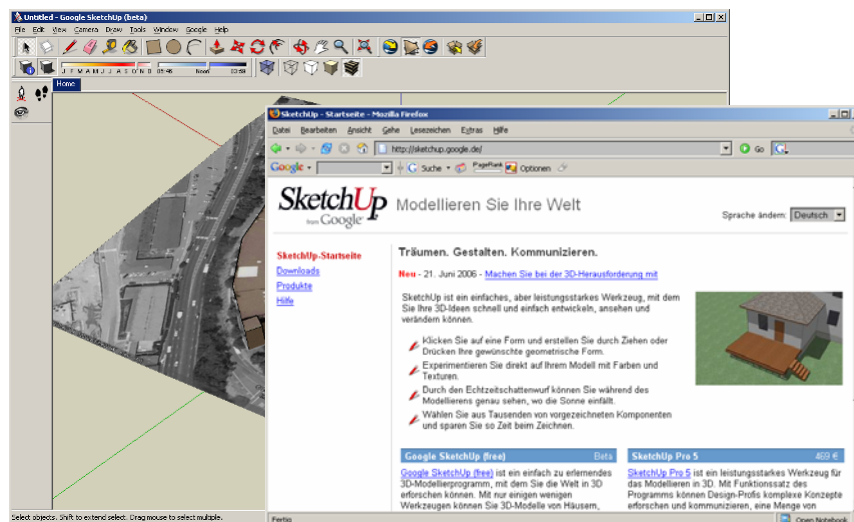
## How to Geo Tag Images in Google „Picasa“



## The Google Earth Solution



## 3D Models via Google Sketchup



http://www.gearthblog.com/



## Google Earth in the news

**Whole Planet Access**  
Google Earth LT. Looking for ultimate map? Google Earth's part street map, part aerial and satellite photos, is available as a subscription service (with free evaluation) delivered to your PC via the Internet. In effect, the EarthViewer3D client gives you control of your own personal satellite in orbit. It instantly delivers a (not-true) satellite or aerial photo of most points you specify on the globe: enter a street address and your view zooms from a space-station perspective down to street level. We still craved more, however: You get street-level detail only for major world cities and certain hot spots (such as Kabul and Baghdad), betraying Google Earth's spy satellite heritage.

**Zooming In On Baghdad**  
You don't have to join the Air Force to fly over Iraq. As anybody who has watched CNN's Baghdad bomb-damage reports knows, it's now easy to pull up satellite images of a major military target and dive into a 3-D landscape rich in hills and valleys, all built from real-world data. Zoom in close enough, and you can see cars on the streets, the shadows of trees and the swimming pools of Saddam's palaces.

**Reality Show**  
WATCH SADDAM DUCK AND COVER. THE SAME high-resolution satellites that roll ground images of Iraq to news networks are now available on the Web. All it takes is a PC, a broadband link and EarthViewer 3D software from a privately held company called Keyhole. A \$79 annual subscription starts you continually updated shots from private satellites hundreds of miles above the Earth. The images are delayed a day or two, so you can't spot Hussein's horsemen dashing between bunkers, but you might see the effects of shelling on his palaces. Like Al-Sipawi (left), located on the banks of the Tigris in central Baghdad, Hay's beams survive. —C.R.S.

**Want to try it at home? All you need is an up-to-date PC—the kind with a built-in 3-D graphics card—and a piece of software from Keyhole Inc. of Mountain View, Calif. A trial version is downloadable at EarthViewer.com; the service costs \$79 a year unless your PC's graphics card was made by Nvidia, an investor in Keyhole, in which case several months are free. A broadband connection is highly recommended.**

**Apert from Iraq, EarthViewer can show Baghdad-level detail for most major U.S. and European cities. For now, the rest of the globe is a little more fuzzy. Still, it's pretty cool to fly from a street in San Diego to Basra in 10 seconds. Even the Air Force can't do that.**

—CityClick.Taylor

**Tiny tech company awes viewers**  
TV news coverage is making a regular use of a tiny EarthViewer software package. The software, developed by a private Silicon Valley company called Keyhole, sent Baghdad and other reports on CNN, ABC and CBS. On Thursday, CNN used the software to show Iraq's Baghdad and other cities from a street-level perspective. The software is available at EarthViewer.com.

EarthViewer is a tiny software package that lets you see a 3-D view of the Earth from a street-level perspective. It's available at EarthViewer.com.

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## Google Earth is the news

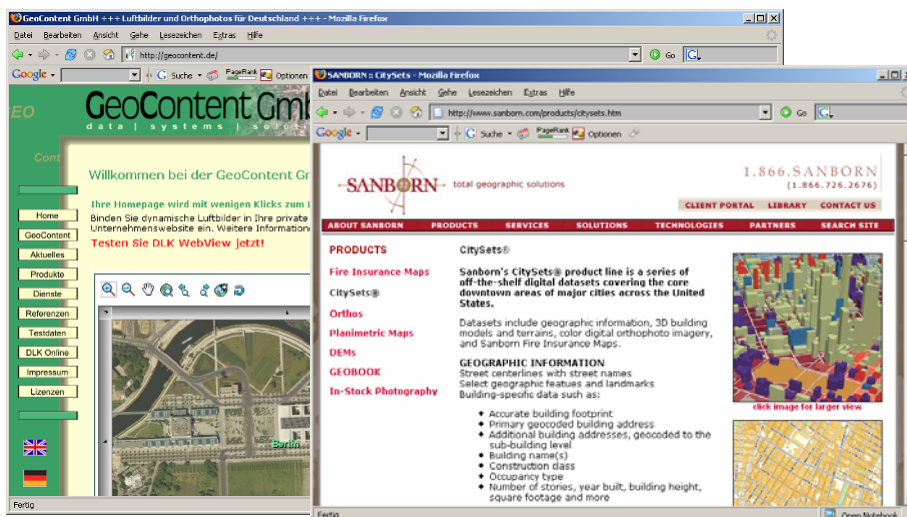


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## Data Provider



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## Travel Showcase

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## In-flight „onebox“ integration into websearch

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## Largest Fused Earth Database Ever Created



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## User Needs—The Problems We Solve

### “Knowing what is between the lines on the map”

- Fast access to detailed information about locations—unlock the value of geospatial data
- Ease of use for non-expert users
- The ability to integrate data from multiple sources
- Specific requirements
  - Satellite imagery, aerial photography and terrain and mapping information
  - 3D terrain display, 3D object display, fly-through animation capability



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## Google Earth HTML / Google Maps

**Google Earth HTML and Google Maps deliver a truly integrated database composed of high resolution imagery, high quality maps, the road network, and points of interest in a Web browser**

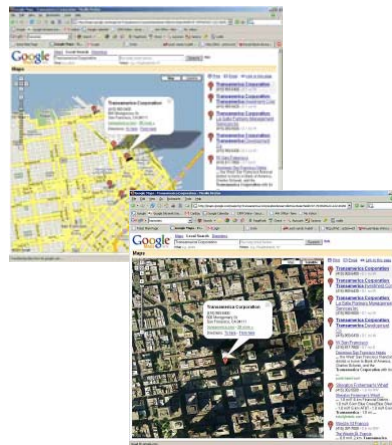
- Unbeatable performance: Images load instantly
- Imagery, road names, borders, and POI are integrated in one image

### Browser based technology

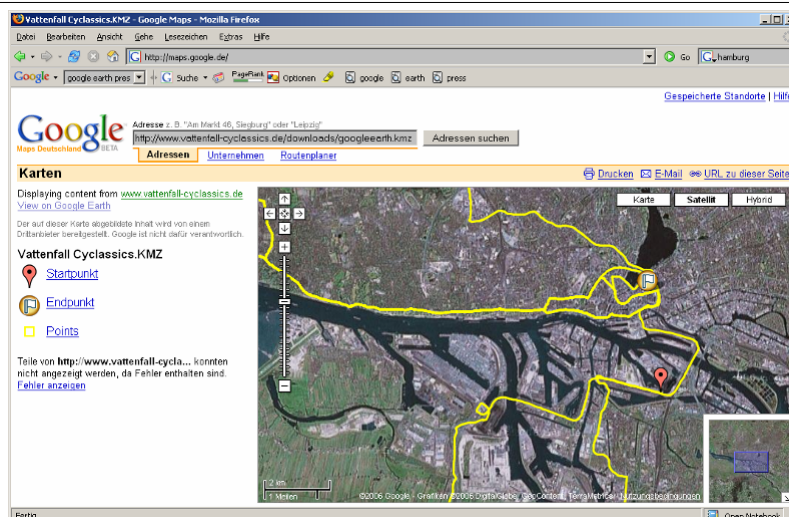
- Platform independent
- No software installation
- AJAX-based solution

### Integrates with Web applications

- Overlay customer data, such as property inventory
- Flexible mark-up language provides complete interface redesign capability
- Published API



## KML / KMZ files for Earth within maps.google.de





## Google Earth—The Geo Browser

### Web Search



Geographically searchable web

Integrated Google Search

Seamless global navigation

3D driving directions

'My Places' for saving searches and user annotations



### Community



Imagery



Maps, geocoding, driving directions, and business listings



3D terrain and buildings

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## Google Earth Product Strengths

**Enables instant access to rich geospatial content for non-expert users**

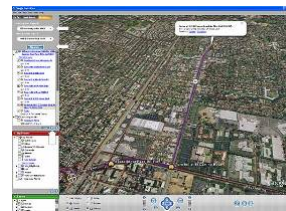
- Single interface that combines imagery, terrain, roads and POI data
- Open data interface standard for incorporating GIS and other location information

**Intuitive user interface**

- Short learning curve
- Seamless user adoption
- Smooth deployment and support

**Proven solution that is reliable and growing**

- Google Earth has supported large corporate and government customers for years
- Proven record of supporting multiple millions of users
- Rapidly expanding database growing high resolution coverage in excess of 100% per year



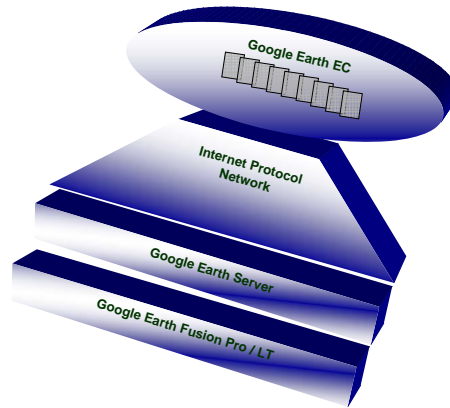
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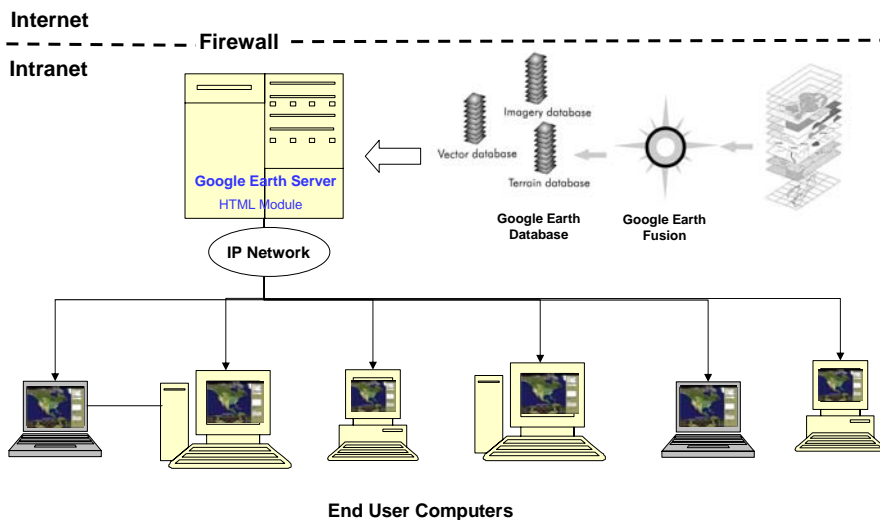


## Google Earth Enterprise System

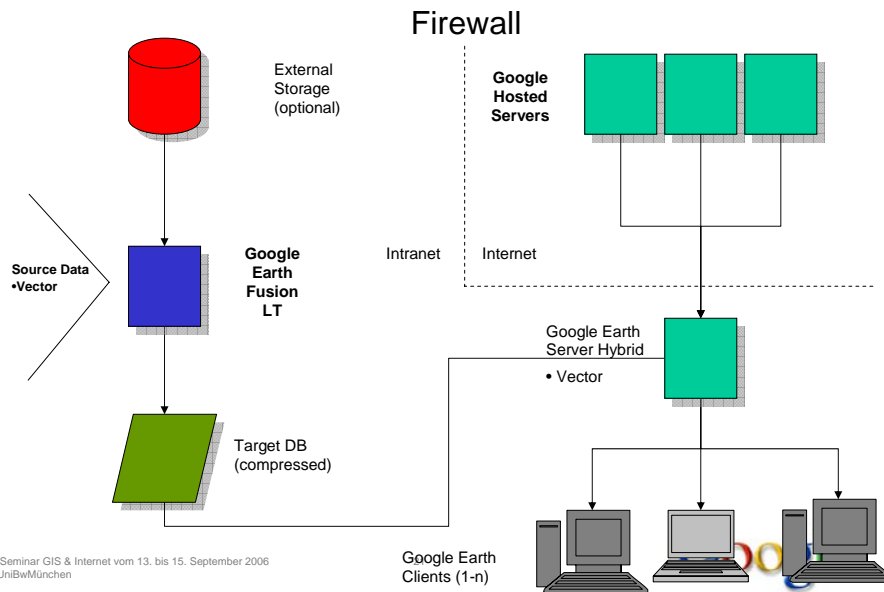
- The Google Earth system solves the problem of distributing geospatial data efficiently
- Designed for high performance, Google Earth's unique advantage is the ability to make rich, complex databases instantly available to non-expert end users



## Google Earth System



## Google Earth Enterprise Architecture—Hybrid



## Google Earth Enterprise Client

- **Google Earth EC software offers a variety of features for annotating, saving, measuring and sharing data**
  - Annotate locations with Placemarks to save the name, view, associated text, and Internet or Intranet link
  - Share location information by saving and emailing Placemarks or image files
  - Measure distances, poly lines, and radiuses to understand the scale and distances of features in an area
  - Identify the latitude, longitude, and elevation of any point
  - Overlay images such as project designs into the Google Earth view
  - Access a custom database on a Google Earth Server or connect to Google Earth's hosted database to access an expanded coverage area
  - KML: Published spec for XML-based data display
- **Platform: Windows XP/2000/98, Mac, Linux**



## Google Earth Fusion



### Google Earth Fusion features:

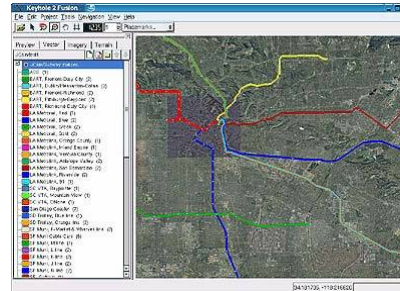
- Supports imagery, terrain, polygons, points and lines
- Supports distributed data processing across multiple CPUs and machines
- Easy-to-use GUI
- Project metaphor – create projects for different collections of data
- Auto-ingest – scriptable engine to automatically synch with changing datastores
- Built-in image re-projection
- Virtual mosaicking capability
- Support for filled polygons and 3D .shp files
- Support for common raster and vector data formats:
  - Vector and Point
    - .shp
    - .map
    - NIMA MUSE
    - Generic ASCII
    - US Census Tiger Line Files
    - GDT
  - Image and Terrain
    - TIFF/GeoTIFF, JPEG, AAIGrid, AIG, USGS, DOQ
    - DTED, ECW, GIF, GRASS, Erdas Imagine (HFA)
    - PNG, USGS SDTS DEM, USGS ASCII DEM, Raw Binary
    - (bil, bsp), others

### Recommended configurations:

- 2 x 2.8 GHz Pentium 4 (or greater)
- NVIDIA GeForce4 or higher graphics card
- 2 GB main memory
- 100/1000 NIC
- SUSE Enterprise 9/SUSE Linux Pro 9

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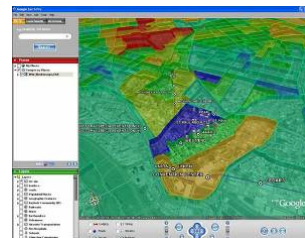
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## Google Earth Server

### Delivers processed data over the network to Google Earth client software and Web browsers

- High performance delivery of geospatial data via secure networks or the Internet
- Geocoder translates place names and addresses into location coordinates for the Google Earth Client
- Spatial search locates businesses by key word
- Authentication for administering user access to the system
- Optional HTML module
- Support for 250 active users
- **Platform: SUSE Linux Enterprise Server 9.2, Red Hat Enterprise Server 4**



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Q & A



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