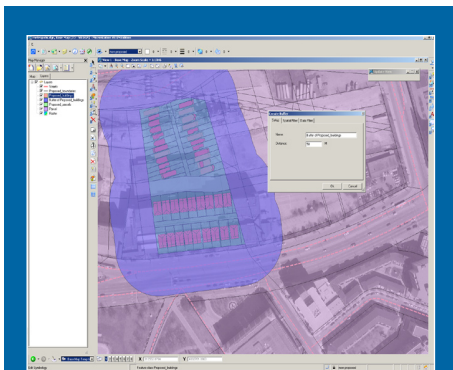


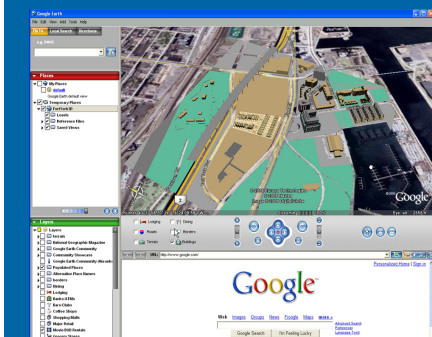
# BENTLEY® MAP™

## POWERFUL, EXTENSIBLE GIS FOR THE WORLD'S INFRASTRUCTURE

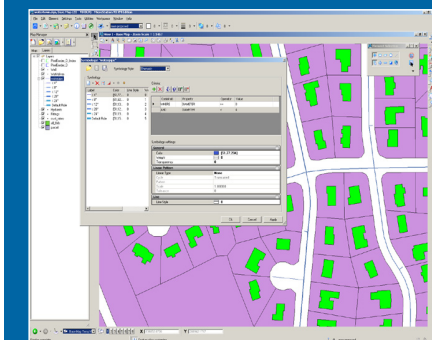
Bentley Map is a fully-featured desktop GIS designed to address the unique and challenging needs of organizations that map, plan, design, build and operate the world's infrastructure. Bentley Map is part of the comprehensive GIS solutions delivered by Bentley as part of its strategy of advancing GIS for infrastructure. Bentley Map is the core desktop product in the Bentley GIS architecture. It works with and complements the Bentley Geospatial Server and Bentley's mobile, Web publishing, and industry applications.



*Buffer of proposed buildings showing transparency*



*3D city map published to Google Earth*



*Thematic map of parcels, buildings and water pipes*

### Overview

Bentley Map enhances underlying MicroStation capabilities to power precise geospatial data creation, maintenance, and analysis. Users can easily integrate data from a wide variety of geospatial data sources into engineering and mapping workflows. Multiple data types with varying coordinate systems are also transformed 'on-the-fly' as they are integrated with Bentley Map. Bentley Map supports extensive spatial analysis, thematic mapping and presentation. These capabilities include tools for creating buffers and performing topology overlays.

### Comprehensive mapping capabilities for infrastructure assets

Bentley Map has unparalleled capabilities for those needing to create and maintain geospatial information as part of the management of infrastructure assets across their lifecycle. Bentley Map allows you to enforce business and topological rules defined by the Geospatial Administrator. The Geospatial Administrator also defines geographic objects, their behaviour, and the GUI. Bentley Map brings the accuracy of CAD and the ease-of-use of GIS together in one environment, and it is fully compatible with all of Bentley's AEC industry applications.

### Intuitive Map Manager

An intuitive Map Manager simplifies the display and query of large amounts of complex spatial information. The Map Manager takes advantage of MicroStation V8 XM Edition's new display capabilities, including display ordering and transparency.

### Easy access to enterprise data and powerful editing capabilities

Bentley Map facilitates geospatial data integration within the enterprise and extends the value of all types of spatial information. Bentley Map can be implemented with any 2-tier database connection supported by MicroStation, a 2-tier connection to Oracle Spatial or a 3-tier connection to Oracle Spatial or ESRI ArcGIS.

### XML Feature Modeling (XFM)

Bentley Map takes full advantage of XML feature modeling. Through the Geospatial Administrator, XFM lets subject matter experts create highly interactive graphic applications without programming and provides for customization by developers in VBA, MDL, and other languages. XFM applications help users maintain standards by encapsulating them with the feature definition and placement tools, including property-based annotation and symbology.

### Topology

Topology can be created 'on-the-fly' or 'on-demand' in Bentley Map. Topological relationships are stored in the DGN file according to the same model used by Oracle Spatial.

### Oracle Spatial editing

Bentley Map can edit data directly in any standard Oracle Spatial environment employing a feature-locking mechanism for multi-user environments. Organizations can also take advantage of Oracle versioning to manage conflicts in an 'extract, edit and post to Oracle Spatial' workflow enabled by the Bentley Geospatial Server.

### Spatial Analysis and Presentation

Bentley Map includes a full suite of spatial analysis and presentation capabilities. These include tools for creating buffers around objects, performing topology overlays, creating thematic maps and more. The results of these analytical processes can be plotted, printed, or published to PDF.

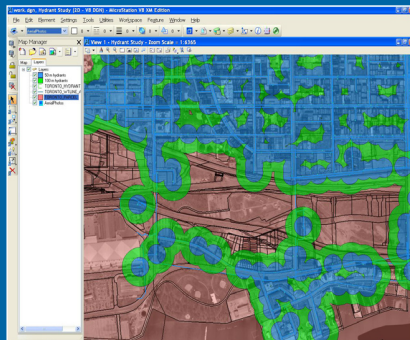
### High productivity output

Bentley Map supports high fidelity output through MicroStation and maps and prints can be published to intelligent PDFs (with 3D images, bookmarks and Web links). Map finishing can be taken to the next level using Bentley CADscript, which supports WYSIWYG map finishing and the production of print-ready four color separations.

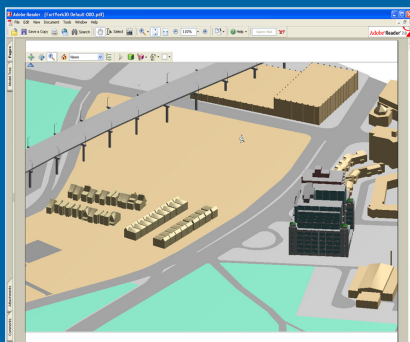
For more information about Bentley Map, visit

[www.bentley.com/bentleymap](http://www.bentley.com/bentleymap)

# BENTLEY MAP AT-A-GLANCE



Fire hydrant study



3D city map published to PDF

## BENTLEY MAP SYSTEM REQUIREMENTS

- Intel Pentium or AMD Athlon
- Windows Vista
- Windows Vista x64
- Windows XP Professional
- Windows XP Professional x64
- Windows XP Home Edition
- Windows 2000 Professional
- Windows 2000 Server
- Windows Server 2003
- Windows Server 2003 x64
- MicroStation V8 XM Edition
- 256MB memory minimum, 512MB recommended
- More memory will typically improve performance, particularly when working with larger models
- 200MB free disk space minimum

### Mapping and Infrastructure GIS

- Efficient data compilation and editing
- Design, build and publish accurate maps
- Enforce business and topological rules
- Brings CAD accuracy, ease-of-use and efficiency to GIS
- Fully compatible with Bentley's AEC Applications

### All the Power of MicroStation

- Smart, quick drawing and editing of GIS features in a MicroStation environment
- Raster management
- AccuSnap, AccuDraw
- Display priority, transparency
- Full 3D modeling

### Map Manager

- An easy-to-learn interface into your spatial data
- Intuitive, easy-to-use, persisted map definitions
- Drag and drop layers to control display order

### XML Feature Modeling

- XML Metadata Driven GIS
- Extensible
- Enforces user standards
- Easy to implement without programming

### Geospatial Administrator

- Manages the XFM framework through one interface
- Runs outside MicroStation
- Defines and maintains XFM project files
- Defines coordinate system and projection information
- User interface definition – dynamically loaded at run-time

### Your Choice of Data Stores

- A two-tier connection to Oracle Spatial
- A 3-tier connection to Oracle Spatial
- A 3-tier connection to ESRI ArcGIS
- Self-contained 'XFM' DGN files
- Any RDBMS/DGN supported by MicroStation

### Oracle Spatial Editing

- Fully Oracle Spatial Compliant
- Three-tier connection available via the Bentley Geospatial Server
- Adheres to native Oracle Spatial feature and topology models
- Topology model is based on the Oracle 10g topology model
- Topology Modes
  - Session topology, built on-the-fly as needed
  - Persistent topology, topological primitives are created only once
  - Primitives (nodes, edges, faces) are stored in the DGN
  - Each primitive can be associated with one or more features
- Both modes are supported with or without Oracle

### Topology Maintenance

- Place features like any other XFM features
- Topology graph is maintained while editing
- Use shared editing commands to move common primitives

### Spatial Analysis and Presentation

- Spatial Analysis
- Thematic Display

### Map Generation and Print Preparation

- Grid and graticule generation
- Marginalia
- Interactively place multi-page borders
- Paper-space sheet models
- Plot high fidelity output through MicroStation
- Publish to intelligent PDF

### Map Projection and Coordinate Conversion

- 5500+ projections including user defined
- Store coordinate systems information with mapping and engineering data for portability
- Perform on-the-fly transformation

### Data Cleanup and Integrity Tools

- Solve integrity problems with imported or legacy data
- Easily adopt XFM schema for imported or legacy data through Dynamic Feature Scoring (DFS)

### Interoperability

- Direct reference geospatial formats
- MapInfo (TAB, MID/MIF), Shapefiles, Oracle Spatial
- Import/Export via an easy-to-use interface designed for large jobs

### GIS Development Platform

- Subject Matter Experts can customize Bentley Map facilitated by the Geospatial Administrator
  - Property Based Symbolology
  - Property Based Annotation
  - Criteria
  - Methods
  - Operations
  - Dialogs
  - Tool frames and tool boxes
  - Prompts
- Developers can further customize by extending the capabilities of Geospatial Administrator and the Standard Placement Library via:
  - C expressions
  - XSLT
  - VBScript
  - VBA
  - MDL
  - .NET API

## ABOUT BENTLEY

Bentley Systems, Incorporated provides software for the lifecycle of the world's infrastructure. The company's comprehensive portfolio for the building, plant, civil, and geospatial verticals spans architecture, engineering, construction (AEC) and operations. With revenues now surpassing \$400 million annually, and more than 2400 colleagues globally, Bentley is the leading provider of AEC software to the Engineering News-Record Top Design Firms and major owner-operators, and was named the world's No. 2 provider of GIS/geospatial software solutions in a recent Daratech research study.

For more information, visit [www.bentley.com](http://www.bentley.com) or call 1-800-BENTLEY.

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