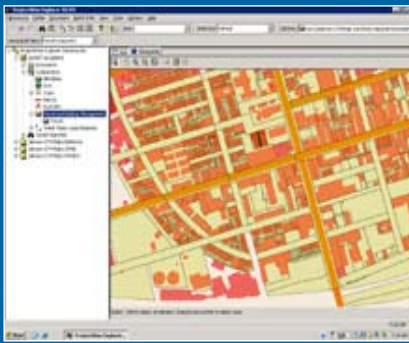


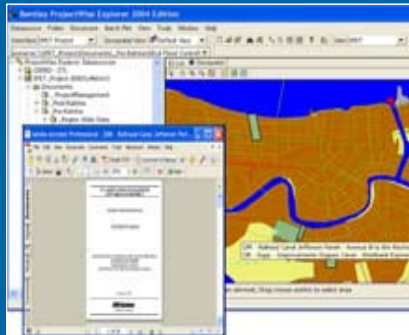
# BENTLEY GEOSPATIAL SERVER

## A FEDERATED APPROACH TO MANAGING INFORMATION

Bentley® Geospatial Server™, the centerpiece of Bentley's GIS architecture, brings together information in spatial databases, drawings, business documents and other forms through a unique Federated Information Management approach based on indexing. Information in enterprise databases, legacy and departmental systems, and project-based data in virtually any format is accessible to users through a spatial interface. Bentley Geospatial Server also supports extensive printing and plotting functions.



*Spatial indexing and searching service*



*Navigate spatial and non-spatial engineering documentation in a spatial environment*

### **Distributed enterprise GIS**

When configured with Bentley Geospatial Server, Bentley's geospatial desktop and industry applications support simultaneous multi-user editing, optimistic and pessimistic transactions, and the time component features provided by Oracle. Versioning relies on the Oracle Workspace Manager. Users can work directly with Oracle Spatial for live editing or in a disconnected mode via an "extract, modify, post" paradigm.

### **Ability to spatially index features, databases, files, and documents**

Bentley Geospatial Server supports the spatial indexing of features, databases, files, and documents. Users can display, search and review the properties of features from the spatial interface. Individual features can be found and depicted visually on the background map. Their properties can be reviewed. Indexed features can also be accessed from the Bentley Geospatial Server list view. Location is automatically deduced for files or documents with inherent coordinate systems—DGN, GeoTIFF, SHP, and more. Documents that are non-spatial can inherit the location of the folder into which they are inserted.

### **Live Oracle Spatial editing**

Perform live viewing and editing of an Oracle Spatial database simply by opening a DGN document stored in the Bentley GeoSpatial Server. This allows users to take advantage of the editing productivity of MicroStation® while working directly with Oracle Spatial information. The approach also allows users to take advantage of the native versioning capabilities of Oracle. The Bentley Geospatial Server facilitates the process by allowing for the creation of database connection documents (DGN) that can be used to connect directly to the Oracle database.

### **Disconnected editing workflows**

Perform reliable disconnected field editing and re-synchronize your device once back in the office.

This avoids repetitive or unnecessary trips to the office by allowing field workers to carry the most current information into the field and improves data quality and currency by capturing in-the-field edits, especially useful in areas of low network availability.

### **Multi-user editing via Oracle versioning**

Bentley Geospatial Server works with the standard Oracle Workspace Manager to enable multi-user editing workflows. It provides for versioning and long transactions with pessimistic locking or optimistic locking. This means versions created by the connector can be accessed by any other SQL clients.

### **Intelligent distributed plotting and printing**

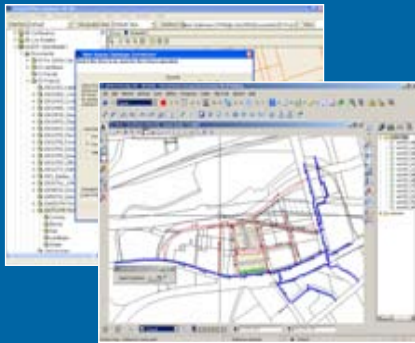
Bentley Geospatial Server delivers printing and plotting functionality for creating accurate and intelligent output. It centralizes the production plotting and electronic archival processes. You can create hardcopy or intelligent PDF renditions of any of the content managed by Bentley Geospatial Server.

### **Temporal data management**

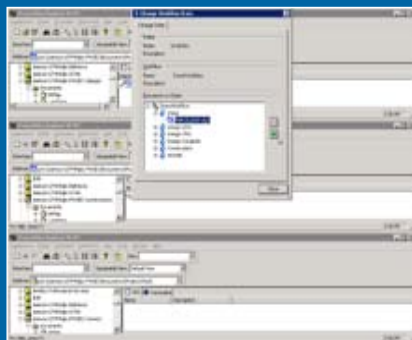
Historical maps and reports needed to support studies, planning, or to meet government regulations can be produced by leveraging historical data management capabilities. Bentley Geospatial Server leverages the time component capabilities of Oracle that allow the storage of historical data in the database. When this mode is enabled, deleted features are not deleted from the database, they are retired. Updated features are not strictly updated, but rather a copy of the old feature is made and the updated feature also exists in the database.

### **Workflow management, security, and collaboration**

With Bentley Geospatial Server, organizations can manage complex workflows from creation through to approval. States, user roles, and



Bentley Geospatial Server supports long transactions using Oracle Spatial



Workflows are easily configured and administered

## BENTLEY GEOSPATIAL SERVER SYSTEM REQUIREMENTS

- Processor:  
Pentium 700 Mhz (or equivalent) processor or better.
  - Operating System:  
Microsoft Windows 2000 Advanced Server (SP 4 Update Rollup 1 for Microsoft Windows 2000 Service Pack 4), Microsoft Windows 2000 Server (SP 4 with Update Rollup 1 for Microsoft Windows 2000 Service Pack 4), Microsoft Windows Server 2003 Enterprise Edition R2 (SP2 or later), Microsoft Windows Server 2003 R2 (SP2 or later), Microsoft Windows Server 2003 Standard x64 R2 (SDP2 or later) - 8.9.4.x and higher
  - Network:  
Windows networking configured for the TCP/IP protocol (IPV4 only)
  - Memory:  
1GB of RAM (2GB RAM or more recommended based upon number of clients)
  - Hard Disk:  
500 MB of Free hard disk space
  - Application Pre-requisites:  
MDAC 2.8 SP1 or higher, Microsoft .NET 2.0 Framework, SELECT Server<sup>®</sup> XM Edition or higher is required to license ProjectWise<sup>®</sup> V8 XM Edition, ProjectWise Orchestration Framework Service and MicroStation V8 XM Edition are pre-requisites if this server will be used to host Document Processors
- Please see further related system requirements on the Bentley Geospatial Server Web page

valid workflows can be defined with ordered milestones through which an object makes its way to completion. The solution can also log all actions and changes made to documents and files and can store and manage multiple versions of them. It enables design comparisons between versions of digital plots, records document and folder activity in audit trails, and ensures that users always have access to the latest version. Bentley Geospatial Server is a secure environment with a considerable degree of flexibility in defining and managing user rights.

### An open, extensible architecture

Bentley Geospatial Server is a highly extensible solution allowing customization at any level of the architecture. Considerable configuration without programming may be done in the administrative applications. Bentley Geospatial Server is also easily extended by developers since it is based on .NET Web services technology. This allows the Bentley Geospatial Server to be integrated into a service-oriented architecture with a loose coupling of applications in order to support business and operational workflows.

## BENTLEY GEOSPATIAL SERVER AT-A-GLANCE

### Unique Federated Information Management Approach

- Indexing rather than data conversion
- Find information via spatial or non-spatial criteria

### Document Service

- Ability to store spatial and non-spatial files
- Ability to manage complex files with references (for example: DGN, SHP, MXD, DWG)
- CAD Standards Management
- Multiple application integration
  - MicroStation v7, v8, XM
  - Applications based on MicroStation
  - AutoCAD 2008, 2007, 2006, 2005, 2004, 2002, 2000
  - ArcMap (ESRI) 9.X
  - Microsoft Office 2007, 2003, XP, 2000, 97

### Spatial Indexing/Searching Service

- Ability to quickly find files based on multiple criteria
- Background map support
- Projection management
- Flexible assignment of spatial locations
- Text indexing (Office, DGN, DWG, PDF)
- Feature indexing

### Workflow Service

- Supports workflow as a set of states (for example: initial, design, 75% design, complete) successively traversed by an object
- For each state different security can be enforced on objects stored in the system
- For each state it is also possible to have specific communication enforced through e-mails.

- The Federated System helps organization members get the right information at the right time and in the right context

### Spatial Database Service

- Excellent Oracle database compliance
- Multi-user editing via Oracle standard versioning
- Short and long editing sessions using standard Oracle database lock
- Time component support
- Advanced data loading tools
- Web services based
  - Service Oriented Architecture allows extraction and posting using standard SOAP Web services
  - Creates simplified user interface and then simply calls the Web services for performing operations

### Plotting Service

- Multi-format plotting and publishing support
- Multiple print interfaces
- Batch plotting
- Custom presentation
- Content-rich PDF output
- Digital archiving
- Detailed design comparisons
- Plot tracking
- Fully-featured printer drivers

### Security

- Complete security system
- Integrated with windows security
- Security based on workflow state, folder, document, events
- Audit of changes

## 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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