



BENTLEY® ELECTRIC

EFFICIENT GIS FOR ELECTRIC UTILITIES

Bentley Electric capitalizes on Bentley's GIS platform to address the facility management, modeling, and maintenance issues that electric utilities encounter in day-to-day operations. It combines the best of GIS and CAD to provide easy layouts and documentation, painless edits, and intelligent data validation that allow you to focus on simple drawing workflows to model and maintain your network.

Industry Standard Data Model

Bentley Electric includes a robust data model based on years of experience modeling electric utilities. The data model encapsulates properties, connectivity, relationships, and the rules that maintain the integrity of the data.

The standard data model allows the utility to install the product and see immediate productivity gains; however, the Bentley Electric data model independence also allows for modification or complete replacement of the data model.

Free Form Placements

Placing an intelligent electric feature according to the electric model is as simple as placing any other feature. The user is free to utilize efficient workflows to layout facilities rather than being bound by system constraints.

Inference Engine

The Bentley Electric advanced inference engine operates behind the scenes using rules to automatically establish network and attachment relationships as the user lays out facilities in the GIS.

Feature Editing

The Bentley Electric feature editor allows the user precise control to modify properties, connectivity, attachment relationships, and parent-child relationships while maintaining data integrity.

Network Tracing

The Bentley Electric network engine supports parametric network tracing. Parametric trace constraints—for example, stop conditions—are sets of user-defined, feature-specific queries used by the network engine to precisely control trace behavior.

Multiple Persistence Models

Bentley Electric supports multiple persistence models that include DGN/RDBMS, Oracle Spatial, and other GIS data

stores. When configured with Bentley® Expert Designer and the Bentley® Geospatial Server, it can work with persistent data stores supported by GE Energy (Smallworld), ESRI, and others. Your choice of data store allows you to store and access data as best suits your needs and IT infrastructure. Interoperability with many industry data formats for GIS, imagery, and other information makes it easy to share data. Bentley Electric provides the same simple and powerful user interface regardless of your choice of data store.

Leverages the Bentley Geospatial Architecture

Bentley Electric leverages the capabilities of MicroStation® and Bentley Map™ to optimize workflows for electric utilities. The Bentley Geospatial Server, as well as other Bentley products, further extends Bentley Electric's capabilities to meet the requirements of any organization.

Easily Configurable

The Bentley Electric data model is completely configurable with the model administrator using standard tools. This approach offers significant implementation cost savings.

Fully Customizable

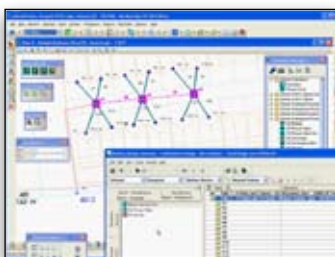
Bentley Electric is entirely customizable through a robust customization model and is accessible to Visual Basic for Applications (VBA).

Integration with Bentley Expert Designer

Seamless integration with Bentley Expert Designer adds powerful new capabilities, including on-the-fly design cost estimation, design cost comparison, automatic compatible unit assignment, configurable work flows, and support for work management and asset management solutions, to name just a few.



Lay out designs in 2D and visualize in 3D for quick verification.



Bentley Electric and Expert Designer work together to maximize efficiency.

SYSTEM REQUIREMENTS

Processor

Intel Pentium-based or AMD Athlon-based PC or workstation

Operating System

Microsoft Windows XP professional SP2 or higher recommended MicroStation V8 XM Edition

Memory

1GB Memory or more typically results in better performance

Hard Disk

200 MB minimum free disk space for product installation (1 GB to allow for additional Geospatial Server Client Applications)

Input Device

Mouse or digitizing tablet

Video

Hardware assisted Direct X Graphics Card with at least 128 MB of video RAM is highly recommended

ABOUT BENTLEY

Bentley Systems, Incorporated is the global leader dedicated to providing comprehensive software solutions for sustaining infrastructure. Architects, engineers, constructors, and owner-operators are indispensable in improving our world and our quality of life; the company's mission is to improve the performance of their projects and of the assets they design, build, and operate. Bentley sustains the infrastructure professions by helping to leverage information technology, learning, best practices, and global collaboration – and by promoting careers devoted to this crucial work.

For more information, visit www.bentley.com

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BENTLEY ELECTRIC AT-A-GLANCE

Comprehensive Electric Utilities Platform

- Electric utilities asset management and mapping
- Utilizes Oracle Spatial for enhanced enterprise integration
- Complete network connectivity and tracing
- Presentation and visualization
- Easy configuration
- Flexible customization
- Work prints generation
- Fully integrated with Bentley Expert Designer

Intelligent Industry Standard Data Model

- Industry standard data models for transmission and distribution (including primary and secondary)
- Attachment (structural) relationship model
- Comprehensive feature properties
- Parent-child relationship model
- Comprehensive child feature properties for each phase
- Network model consists of nodes and edges with direct associations to Bentley Electric features
- Place and edit commands enforce connectivity rules
- Flexible rules allow free form placement of Bentley Electric features
- Logical connectivity model maintained in a relational database or in the DGN
- Various persistence models supported to give you a choice of data stores for the network and associated information in Oracle Spatial, RDBMS/DGN, and traditional GIS

Facility Layout and Documentation

- Leverages the power of MicroStation and Bentley Map for placement and edit
- Image integration via MicroStation Raster Manager provides access to a wide range of image data
- Fast free form placements of structures, conductors, and devices
- Inference Engine automatically builds network connectivity, structural relationships, and parent-child relationships during placement
- Property-based annotations
- Property-based symbology
- Edit and review all structures, conductors, and devices
- Network connectivity, structural relationships, and parent-child relationships maintained during edits
- Automatic and semi-automatic validation and cleanup tools
- Compound feature support allows for multiple feature placements with one action
- Switch cabinets configured as compound features with the standard data model
- Features reference support documents in standalone mode with link sets
- Features reference support documents in a managed environment with ProjectWise® links

Network Tracing

- Parameter-based network trace capabilities:
 - » Trace Connected (radial) from electric feature
 - » Trace upstream (to source) from electric feature
 - » Trace downstream (away from source) from electric feature
 - » Trace shortest path from two electric features

- Predefined default stop criteria
- User definable criteria supported

Presentation/Visualization

- Utilize powerful raster tools for image backdrops
- Thematic representation of attributes and graphics
- Generate buffers and zones for analysis
- Measurement tools provide for distance and area calculations
- Spatial and attribute queries

Configurable

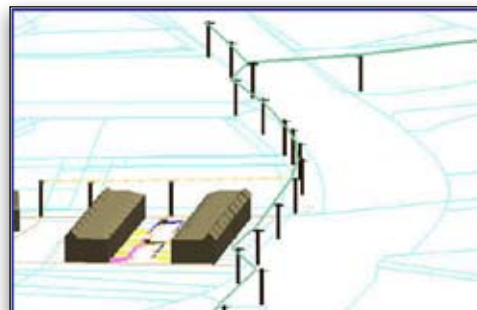
- Configurable with the Model Administrator
- Reconfigurable Industry Standard Data Model
- Feature definitions
- Network definitions
- Automatic annotation
- Business rules
- Placement rules
- Bentley Electric data model allows for integration with existing GIS

Customizable

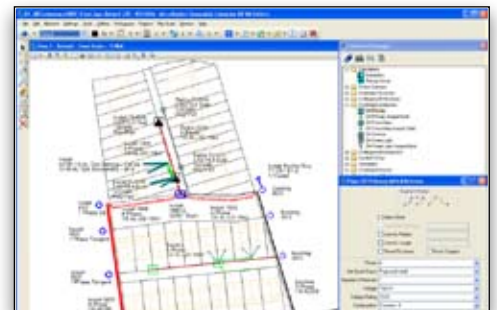
- Comprehensive customization model
- Built-in Visual Basic for Applications (VBA)

Integration

- Fully integrated with Bentley Expert Designer
- Design
- Estimation
- Work Management
- ERP Integration



Bentley Electric has an intelligent network model that supports a variety of tracing options.



Facility properties, symbology, annotation, and placement rules are driven by XML Feature Modeling (XFM).