What's coming Bentley Map V8i (SELECTseries 3)

A quick overview
Bentley Map V8i (SELECTseries 3) At-a-Glance

• Feature Engine Performance Enhancements
  – New more efficient polygon type
  – Better memory management
  – Better use of Platform technology
  – Affecting all Bentley Map workflows

• SQL Server Spatial Server support

• Direct Data Access
  – Accessing Millions of Rows directly
  – Affecting all parts of the application working with attributes information

• Spatial Data Streaming

• Custom Datum/Ellipsoid Definition

• Survey Data Integration

• Terrain Model and Scalable Terrain Model

• Web Feature Service (WFS) client

• More API (including Direct Database Access)

• Export Bentley Map data to DGN

• 3D GIS Enhancements
  – Geometry clean-up
  – Solar Analysis
  – CityGML Application Template
Spatial Data Streaming- SQL Server Spatial

- Connect directly to SQL Server Spatial
- Query, modify and post features
- Standard SQL Server spatial data. No required tables or columns
- Seamless access to spatial data at display time
Benefits - Spatial Data Streaming SQL Server Spatial

• Supports standard SQL Server Spatial features
• Spatial support for Microsoft standard environments
• Simpler and more intuitive end user experience
Spatial Data Streaming - Oracle Spatial

- Connect directly to Oracle Spatial
- Query, modify and post features
- Standard Oracle Spatial data. No required tables or columns
- Seamless access to spatial data at display time
Spatial Data Streaming - Oracle Spatial

- Supports standard Oracle Spatial features
- Spatial support for Oracle standard environments
- Simpler and more intuitive end user experience
Direct Large Database Access

- Query millions of rows quickly to Data Browser
- Sort and filter records at database speeds
- Minimal memory required for very large databases
Benefits- Direct Database Access

- Fast operation with very large databases
- Save time by not creating smaller project databases
- Reduce local machine memory requirements
- Reduce network traffic by sending only the data being viewed to the workstation
Web Feature Service

• Access WFS sources through Internet

• All Bentley Map query and symbology options supported

• WFS features behave as any Bentley Map feature
  - Annotate
  - Thematic
  - Analyze
  - Query
  - Report
Benefits- Web Feature Services

• Take advantage of public WFS data
• Industry standard tool for spatial data access
• Enhances interoperability in multi-vendor installations
Survey Data Integration

- Civil survey tools integrated in Bentley Map spatial environment
- Integrate and Adjust Survey instrument raw data
- Designed to create existing surfaces from multiple sources
  - GEOPAK/InRoads/MX DTM
  - Survey
  - Graphical
  - Lidar
  - DEM
  - Raster
  - LandXML
Benefits - Survey Data Integration

- Access civil related data directly in GIS environment
- Reduce training and purchase costs for additional software
Export Bentley Map Data to DGN

- Allows to export data from inside the Map Manager using the currently defined symbology
- Creates standard DGN elements (no attributes)
- Elements can be used in any CAD based workflows as the Bentley Map features are decomposed into their constituent base elements
API

- New APIs to support new functionality
- Provide better integration between MicroStation and Bentley Map models
3D Geometry Clean-up

- New MicroStation tools to create valid solid models from existing geometry
- Correct and stitch surfaces
Benefits - 3D Geometry Clean-up

• Produce complete solid models from existing 3D surfaces

• Reduce time remodeling existing data

• Produced models will be suitable for storing in Oracle Spatial
Solar Analysis

- Calculates total solar exposure over a user defined time period
- Takes weather patterns into account
- Specify different solar intensity to take atmospheric conditions into account
- Produces shadow elements that can be used for further analysis or intersection with proposed building models
Benefits - Solar Analysis

• Calculate total solar exposure to help locate solar panels

• Solar exposure provides a better indicator of sun on public lands than simple time-of-day shadow studies

• Shadow objects show precise shadow areas and, optionally, the color of the shading object to easily assess the effect of new development on the surrounding area
Demo- Solar Analysis

- Calculate total solar exposure
- Visualize exposure on 3D model
- Calculate shadows as volume elements

Data provided by Quebec City
CityGML Application Template

- Bentley Map XFM model based on CityGML data model
- Supports all CityGML features
- Includes placement and promote tools
Benefits- CityGML Application Template

- Create CityGML models from existing 3D models using Promote tools
- Placement methods to create certain components directly
- Standard Bentley Map format means interoperability with supported GIS data types
- Support from FME for many other formats
Scalable Terrain Model (STM)

- High-performance display of digital terrain models (DTMs)
  - very large areas
  - billions of points

- View huge DTMs at geospatial scale
  - City, Region, State, Country

- Potential users
  - Municipal, States, Federal agency and government
  - EPC working in GIS
  - Large infrastructure project
Benefits- Scalable Terrain Model

- Use city and region scale DTM, no requirement to extract project size DTM
- Full access to every point
- New workflows possible with large scale DTMs
- High resolution image draping for high quality visualization
- Easy synchronization with original terrain sources
What’s coming in Bentley Map V8i (SELECTseries 3)?

**Bentley Map Enterprise- Running Standalone**
- Scalable Terrain Model Support
- Advanced Image Draping on Terrain
- Drape Line on Point Cloud
- Advanced Point Cloud Export
- Solar/Shadows Analysis
- 3D Geometry Clean-Up
- Advanced Snap on Point Cloud
- Point Cloud Classification Editing

**Bentley Map- Running Standalone or For MicroStation**
- SQL Server Spatial Editing
- Survey Data Integration
- XFM Feature Engine Performance Enhancement
- Export Bentley Map Data to DGN
- Direct Database Access
- Terrain Model Support
- Oracle Spatial Performance Enhancement
- Spatial Data Streaming

**Bentley Map PowerView- Running Standalone**
- SQL Server Spatial Viewing
- WFS Viewing
- XFM Feature Engine Performance Enhancement
- Point Cloud Viewing