Pitney Bowes
Business Insight

DATA SHEET

Vertical Mapper™

for Spatial Visibility and Analysis in Communications

GAIN DEEPER LOCATION INSIGHT USING GRID-BASED ANALYTICS

Summary

Our Vertical Mapper solution allows for spatial analysis in a grid format or for converting grid data to region data through contouring. Communication carriers use this solution to work with or manipulate grid data produced by RF propagation solutions to fulfill a host of needs across the enterprise.

Benefits

- Provides quick and easy cross-analysis of coverage data
- Assists in transmission planning with cross section visualization
- Analyzes the total visible tower area using viewshed analysis
- Utilizes pictorial representations of coverage, and converts into data that can be queried and analyzed
- Enables powerful and flexible grid and raster based GIS analysis

OVERVIEW

With enormous infrastructure costs for deploying telecommunications systems, making the right site location decisions is critical for communication carriers like you.

That's why you need the Vertical Mapper™ spatial information system for advanced 3D and grid-based analytics. It works in combination with the MapInfo Professional® solution, using such criteria as surface elevation, land use and clutter, and current and projected system usage demands, to help determine the optimum locations for transmission towers.

Use Vertical Mapper for planning capacity and optimizing network performance by:

- Comparing coverage maps to forecast and model network capacity, such as RF channel, frequency use and bandwidth utilization
- Regularly monitoring capacity and performance, and developing upgrade strategies
- Understanding available calling plan options to locate target markets and perform competitive analysis

ABOUT VERTICAL MAPPER

Enjoy access from our more-familiar MapBasic® programming language to automate repeatable tasks and processes. Some 66 sample applications provide a fast, easy start to leverage Vertical Mapper functionality in your everyday work.

With support for our latest native file format (.tab) enhancements, users will appreciate the expanded capabilities of the new Vertical Mapper file access library, including:

- Access to very large geographic objects with tens of millions of nodes
- Time and Date field type support
- Access to all MapInfo Professional® supported datums and projections

ADDITIONAL NEW FEATURES:

- The ability to import raster data as Vertical Mapper Grid data, as well as convert raster data, such as a bitmap file, into a Vertical Mapper Grid file.

The supported raster data formats include Bitmap, JPEG, GIF, ECW, JPEG 2000, portable Network Graphics, Geo TIFF/Tagged Image Format, Multi-resolution Seamless Image Database.

- Windows® Vista operating system support
- Simplified installation and deployment options

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Additional applications for communications carriers include:

- Quick and easy cross-analysis of coverage data with other data, such as
  - Demographics (for strategic planning and measuring KPI benchmarks)
  - Network performance (compare drive test data with predicted coverage)
  - Compare coverage with competitors coverage
  - Overlay trouble ticket or other network information with coverage layers
- Cross-section visualization to assist in transmission planning to determine if one tower can "see" another
- Viewshed analysis of total visible areas from towers
- Use of coverage data from more systems and sources than ever, such as importing flat bitmap and jpeg images and converting them into coverage data for query and analysis
- Powerful and flexible grid and raster based GIS analytics, including
  - Using numeric grid data, such as best server strength or other signal data
  - Using classified grid data, such as land use/land classification "clutter" data
  - Contour, slope and aspect mapping
  - Querying and calculations of grid data
  - Seamlessly working between vector data and raster grid data

More Accurate Display for Better Business Decisions

Our Vertical Mapper solution allows for spatial analysis in a grid format or for converting grid data to region data through contouring. You can easily view constantly changing data variables in relation to location by thematically mapping the data with color or relief shading, or by layering and comparing the data mathematically with other grid themes to determine unique or hidden relationships.

Communication carriers use the Vertical Mapper solution to work with or manipulate grid data produced by such RF propagation solutions as Planet® EV to fulfill a host of needs across the enterprise.

Network planners can...

Perform a wide array of operations on grid data such as grid smoothing, contouring and grid queries to turn grid data to actionable information.

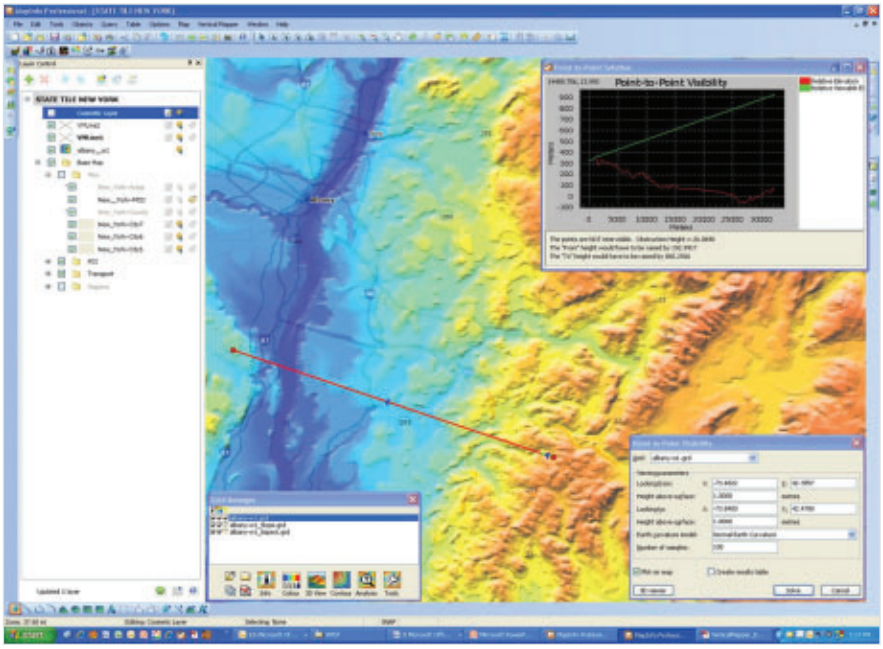
Marketers can...

Contour the grid data and overlay geographic boundaries such as ZIP Code™ boundaries and calculate the total covered population that has coverage.

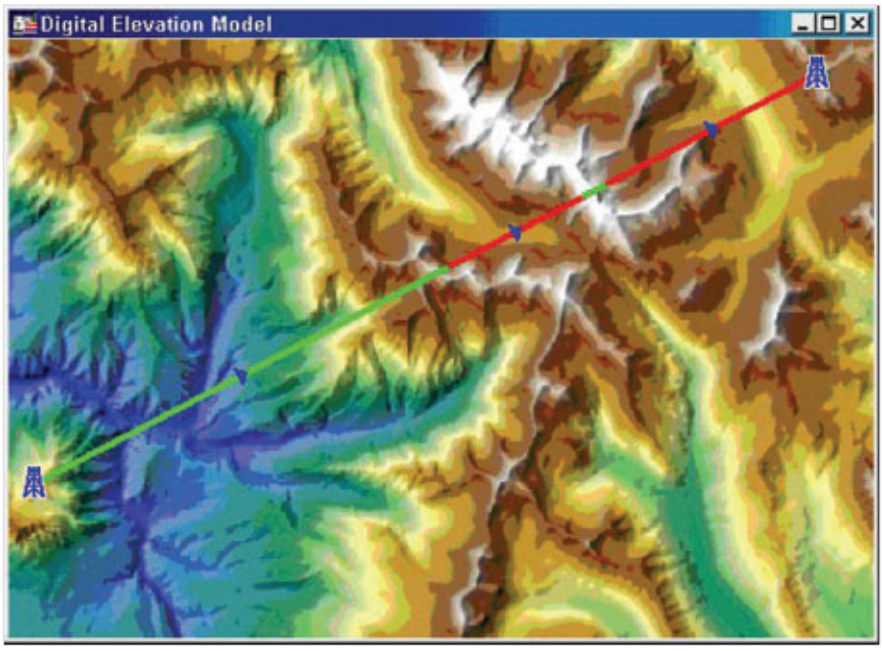
Combine the above information with demographic data, such as household income, and create product and marketing messages that best meet the target population demographic profile.

Customer service can...

Use the contoured coverage data that can be generated to answer such customer questions as: If I live on 23rd main street and work at 55th Street, will I have continuous coverage?



Convert grid data to region objects to perform location analysis.



The Vertical Mapper™ solution enables engineers to determine the best line of sight locations for coverage planning and analysis.

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Built for Advanced Mapping and Everyday Analysis

The Vertical Mapper solution features a full suite of interpolators based on all standard estimation principles that let you build continuous surfaces, or grids, from existing point files or unmapped tables, regardless of data type.

Easy-to-use wizards help novice users achieve meaningful answers, while experienced mappers can adjust advanced settings to obtain more sophisticated results.

Major Features and Benefits

Our Vertical Mapper solution offers these key capabilities:

- Wide range of analysis tools help reveal trends in data (via interpolations, 3D views, contours, cross-sections and more)
- Profiling and Huff model prediction capabilities identify areas with similar attributes
- Wide array of tools to build grids from existing data
- Several gridding algorithms are now included: triangulated irregular network (TIN) with smoothing, inverse weighted distance function, natural neighbor, rectangular (bilinear) interpolation, kriging, custom point estimation (point estimation allows for the calculation points within a radius, including sum, minimum, maximum, average and more), point-to-point and view shed analysis
- Color settings and dynamic 3D rendering bring data to life

Our system uses the following point density or hot-spot creation methods:

- Square area—points totaled for each square of a grid cell
- Smoothing—density expressed as a normalized value between zero and one

Vertical Mapper also supports the creation and manipulation of classified grids (GRC data), including the modification and merging of class structures.

SPECIFICATIONS

Operating Systems Support

- Win 2000 SP4
- Win XP Professional SP2
- Win XP Home SP2
- Windows® XP (64-bit)
- Windows® Vista (Ultimate)

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