SAS/GRAPH® Software

Present data in charts, graphs and maps within multiple business intelligence applications

What does SAS/GRAPH® software do?

SAS/GRAPH software creates and delivers highly effective visuals that enable decision makers to gain a quick understanding of critical business issues.

Why is SAS/GRAPH® software important?

It meets the needs of both business analysts who need to examine and present data visually and IT managers who need an effective and flexible yet consolidated software portfolio. SAS/GRAPH software creates highly customizable, presentation-style visuals no matter where the information resides, which computing platforms are used or in what format the results are needed.

For whom is SAS/GRAPH® software designed?

SAS/GRAPH software is designed for analysts who need to explore, examine and present data in an easily understandable way, and distribute their findings in a variety of formats to decision makers across the enterprise.

Companies increasingly want to use their data to improve business practices. Once data has been analyzed, the resulting information needs to be communicated quickly and effectively to decision makers so appropriate actions can be taken.

In many organizations, individual business units have chosen data visualization packages from different vendors, resulting in a variety of software across the enterprise. But unfortunately, many of these "personal productivity" visualization tools were not designed to handle analysis and visualization work on large amounts of data. Because of this, increasing numbers of users who are experiencing limitations with their current data visualization packages are turning to IT for additional tools or assistance in performing their tasks. IT staff must spend more time and resources making data subsets available in various formats that are consumable by different products. Because the visualization applications are not integrated, additional silos of isolated information are created.

SAS/GRAPH software uses the power of SAS® to combine large amounts of data from disparate sources, perform the analysis needed to extract crucial information and provide highly effective visuals to corporate decision makers, giving them a quick understanding of the key points needed to make informed, timely decisions.

Extending the power of SAS' data management, business intelligence and analytic tools, SAS/GRAPH software enables users across your enterprise to display accurate data analysis results in eye-catching, full-color graphs and charts.

Key Benefits

- **Meets the full range of enterprise visualization needs while consolidating vendor portfolios.** SAS/GRAPH software can handle all of an organization's graphic/data visualization needs, including analytical-style graphs, maps and charts, with any style of output that is required. A consolidated vendor portfolio reduces the costs of licensing, maintaining, training and supporting a wide variety of visualization products and ensures that consistent information is available across the enterprise.

- **Provides graphical capabilities that can keep pace with the visualization demands of today's organizations.** Because SAS/GRAPH is scalable across platforms, it efficiently supports the use of large stores of cross-platform enterprise data. Users can self-sufficiently create powerful visuals from large amounts of data, making them more productive while reducing IT's workload.

Product Overview

SAS/GRAPH software enables you to create and deliver high-resolution, pre-sentation-grade graphics for distribution across the organization. It extends the power of SAS for data management, business intelligence and advanced an-alytics and turns data into eye-catching, full-color graphs and charts in seconds. Data analyses can be performed on the optimal platform, and visuals can be created and customized to help others understand the results. A programmatic interface allows you to create programs for batch submission and customize them extensively for individual organiza-tional needs.

Analyzing data

SAS/GRAPH software facilitates data analysis with a wide range of statistical methods, making it easy to pick out patterns, trends and items of interest within data. SAS visualization technolo-gies take advantage of SAS software's integrated architecture to deliver ac-curate insights derived from powerful SAS analyses. Any of the many statisti-cal methods in SAS can be used to examine data for relationships, with the results then analyzed graphically.

Data also can be compared against common distributions and plotted using the plot chart of your choice. Drill-down capabilities can be added, even to GIF images, for more detailed information delivery.

Creating highly effective visuals

SAS/GRAPH software enables users across the enterprise to visually present their ideas and findings using a huge variety of business maps, charts, plots and 3-D relationship graphs. Choro-pleth, prism, block and surface maps can be created in many colors and pat-terns, and extensive map data sets are
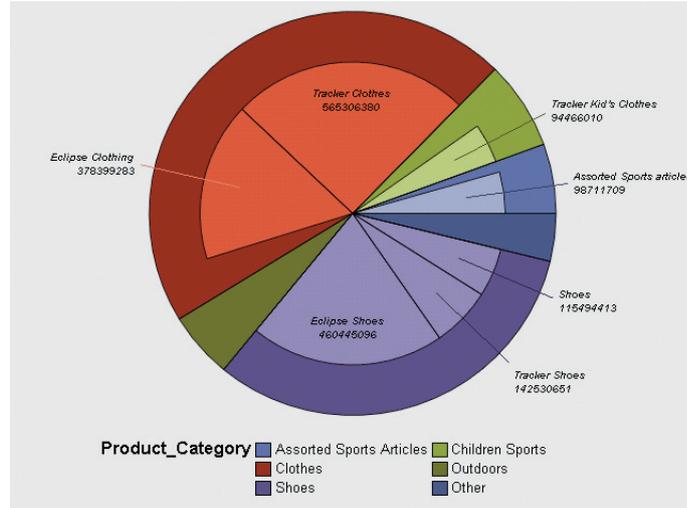
Use SAS/GRAPH software to deliver highly effective visuals across the enterprise.
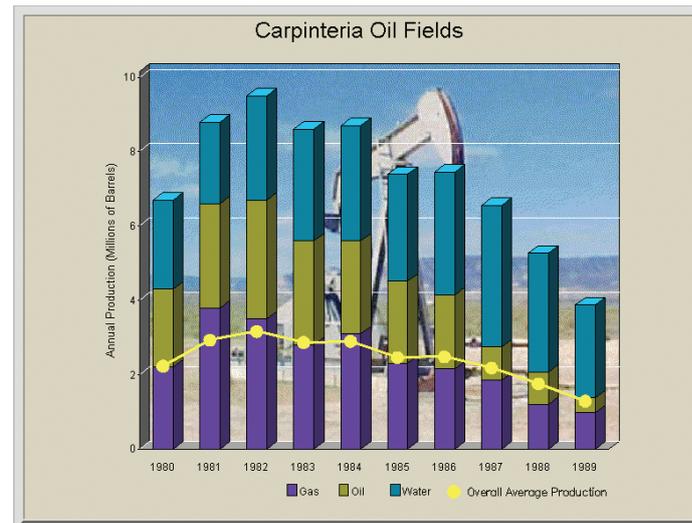
Analyze data and present the results with easy-to-understand graphs.
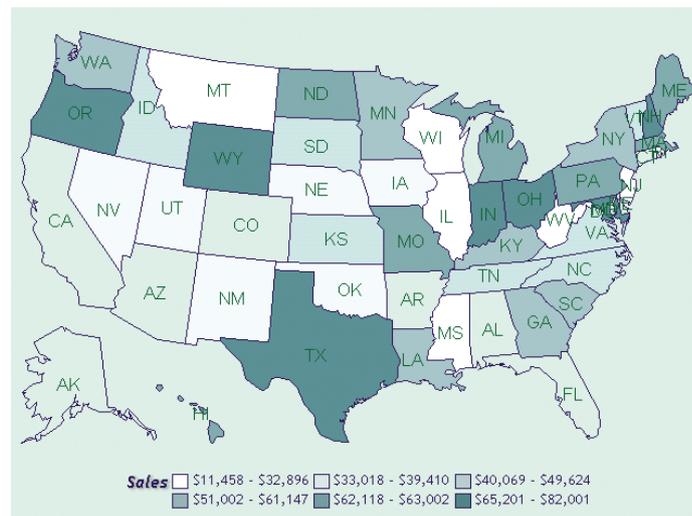
Extensive mapping capabilities help users gain a better understanding of data.

included. With SAS/GRAPH software, maps can be created that represent anything from a silicon chip to the ocean floor.

SAS/GRAPH software enables you to summarize data and present the findings using business charts, including vertical and horizontal bar, pie, donut, subgrouped pie and donut, star and block charts. Stacked or grouped bar and block charts, as well as single or multiple charts, may represent sums, averages, frequencies and percentages calculated from data.

Scatter, line, area, bubble, multiple axis and overlay plots can be created and customized with colors, line styles and symbol styles. Legends, position labels and other information can be placed directly on the plot. With SAS/GRAPH software, you can easily control the method used to represent plotted data.

Data also can be displayed within a three-dimensional coordinate system using response surfaces or scatter plots. Tilting and rotation can be used to emphasize critical features of the surface or plot. Contour plots can be used to represent 3-D relationships in two dimensions with lines or patterns identifying contour levels.

Presenting data visualizations

Visual components can be created, customized, easily stored in catalogs, retrieved as needed and combined with other graphics and information.

You can create both static and interactive visuals, even free-form designs, and output them on hundreds of different devices. The software also supports the batch processing of high-volume graphics. When you have the results you're looking for, deliver them across the enterprise via printed reports, email, the Web or embedded in other applications.

Key Features

Data analysis

- Examine data for relationships using a plethora of statistical methods, including Pearson, Spearman, Hoeffding and Kendall. Add p-values and scatter plots.
- Compare data against common distributions: normal, lognormal, Weibull, beta, gamma and kernel.
- Include histograms, probability plots, quantile-quantile plots and box plots.
- Add drill-down capabilities, even to GIF images, so users can visually explore analyses.

Data visualization with maps, charts and plots

- Create choropleth, prism, block and surface maps.
- Map data sets provided for countries and continents of the world, US counties and states, and Canadian provinces.
- Summarize data and present summaries using charts: vertical and horizontal bar, pie, donut, subgrouped pie and donut, star and block.
- Represent sums, averages, frequencies and percentages with stacked or grouped bar and block charts, single or multiple pie, donut and star charts.
- Generate scatter, line, area, bubble, multiple axis and overlay plots.
- Customize plots with colors, line styles and symbol styles.
- Create legends and position labels and other information directly on plots.
- Easily control the method used to represent plotted data – straight lines, smooth curves.

Visualization presentation

- Create customized visuals – even create free-form designs.
- Store graphics output in a catalog for later display.
- Combine multiple pictures in a single graphics display.
- Enhance graphics with user-specified annotation for use on either the client or the server.
- Generate two- and three-dimensional plots depicting relationships among data values:
  - Display data within a 3-D coordinate system using response surfaces or scatter plots.
  - Use tilting and rotation of the coordinate system to emphasize surface or plot features.
  - Use plots to represent 3-D relationships in 2-D with lines or patterns identifying contour levels.

Visualization delivery

- Generate static or dynamic interactive (Java or ActiveX-based) charts and graphs with drill-down capabilities.
- Link graphs to Web pages. Automatically link pixel areas to URL target locations defined in HTML files.
- Embed interactive graphs into Web pages and Microsoft documents.
- Generate graphs in a variety of static forms (Microsoft Windows bitmap and metafile, enhanced metafile, device-independent bitmap, JPEG, GIF, TIF, PS, EPSI, PNG and PBM) that can be inserted into third-party applications.
- Export SAS graphs using CGM (Computer Graphics Metafiles) to a variety of graphics packages.
- Support for virtually all common printers and plotters.

Other

- Programmatic interface for creating programs for batch submissions. Customize according to specific needs.

SAS/GRAPH® System Requirements

To learn more about SAS/GRAPH system requirements, download white papers, view screenshots and see other related material, please visit www.sas.com/graph.

SAS Institute Inc. World Headquarters   +1 919 677 8000

To contact your local SAS office, please visit: **www.sas.com/offices**

THE POWER TO KNOW®