SAS® Enterprise Guide®

Delivering the power of SAS® Analytics and reporting from an easy-to-use, point-and-click Windows interface

What does SAS® Enterprise Guide® do?

SAS Enterprise Guide is a point-and-click, menu- and wizard-driven tool that empowers users to analyze data and publish results. It provides fast-track learning for quick data analysis, generates code for productivity and speeds your ability to deploy analyses and forecasts in real time.

Why is SAS® Enterprise Guide® important?

It saves customers time and money and builds on their SAS investment. With SAS Enterprise Guide, coders can use programs they already have to create stored processes that can be run on demand by a manager and ported to a Microsoft Excel spreadsheet.

For whom is SAS® Enterprise Guide® designed?

SAS Enterprise Guide is designed for business analysts with no SAS programming experience, as well as SAS programmers and statisticians.

In their efforts to be more proactive, organizations are decentralizing their decision-making processes. As a result, more people need convenient access to the right information for their decision making.

With the demand for timely business intelligence, IT departments are under constant pressure to support advanced user needs and expectations with a comprehensive application.

Business analysts need a simple mechanism for presenting and sharing everything from basic to advanced analytic results to gain insight and enable their management to make decisions. Providing this functionality can prove difficult since the majority of analysts are not experienced programmers, yet they still need self-sufficient, transparent and quick access to data and analytic capabilities.

SAS Enterprise Guide, a powerful Windows client application, meets these needs by providing a point-and-click interface to the full power of SAS. Interactive dialog boxes guide users through analytic and reporting tasks that range from simple to complex. It also provides transparent access to SAS data and external data and enables exporting the results to other Windows and server-based applications. Reports created using SAS Enterprise Guide can be distributed on a periodic basis to targeted groups of users within the organization, enabling the latest intelligence to reach those who need it to make the right business decisions.

Key Benefits

- **Liberates IT by providing business analysts and statisticians with a self-service environment tailored to meet their needs**. Only SAS Enterprise Guide integrates an extensive array of analytics with the power of SAS software in an efficient, friendly graphical user interface. Business analysts can produce analyses and distribute reports, freeing IT to focus on other strategic projects.

- **Provides centralized, IT-managed role-based security**. A centralized system for managing access to corporate data ensures that users have appropriate access privileges that empower them to react quickly to evolving business conditions.

- **Enables self-sufficient and easy access to enterprise data sources for business analysts, programmers and statisticians**. Our solution guides users so they can quickly access data for analysis, schedule projects, share results and embed output easily for repeated use – including access to advanced analytics and other SAS capabilities.

- **Makes reporting and analytics available to the masses with flexible distribution mechanisms that adapt to changing needs.** The ability to develop and deploy customized tasks lets users extend the product's core functionality to create easily distributed custom wizards. Information can be delivered through an established publishing framework with the ability to publish dynamic, interactive content to Microsoft Office and Web users.

Product Overview

SAS Enterprise Guide is a powerful Windows .NET client application with an easy-to-use graphical user interface designed to enable self-sufficient and fast guided access to the analytic power of SAS software.

Business analysts, programmers and statisticians can leverage the power of SAS transparently on many platforms. They can access data quickly, manipulate it, perform basic reporting and carry out basic and complex analyses. With SAS Enterprise Guide, they can also distribute the results to targeted groups of users, disseminating the latest intelligence to those who need it for making decisions quickly and effectively.

GUI for Guided Analysis and Reporting

SAS Enterprise Guide provides a graphical user interface that allows transparent access to the power of SAS. A process flow diagram facility lets users visually organize and maintain their projects.

The software delivers many out-of-the-box analytical tasks, including forecasting, correlations and predictive models. Results from the analyses can then be shared seamlessly with decision makers. Nearly 90 wizards and tasks are provided, making specific capabilities easily accessible. For both beginners and advanced users, programming time is eliminated because the code is generated automatically.

In addition, advanced users can combine the use of wizards and programming to create business-specific custom task wizards that guide less sophisticated users step-by-step through complex business processes. These customized wizards, which extend the product's core functionality, can be shared easily with other SAS Enterprise Guide users from the Web and Microsoft Office via other SAS Business Intelligence applications.

Data Access and Management

With SAS Enterprise Guide, users can visually access any data type supported by SAS as well as native Windows data types via ODBC, OLE DB, OLE DB for

At right: SAS Enterprise Guide provides an easy-to-use interface to access the power of SAS data access, reporting and analytics, enabling you to quickly create and publish SAS Stored Processes that can be leveraged from Microsoft Office applications or Web browsers.

Below: Perform ad hoc analysis of n-dimensional data using the OLAP Analyzer in SAS Enterprise Guide. Predefined calculations facilitate analysis of time series data.
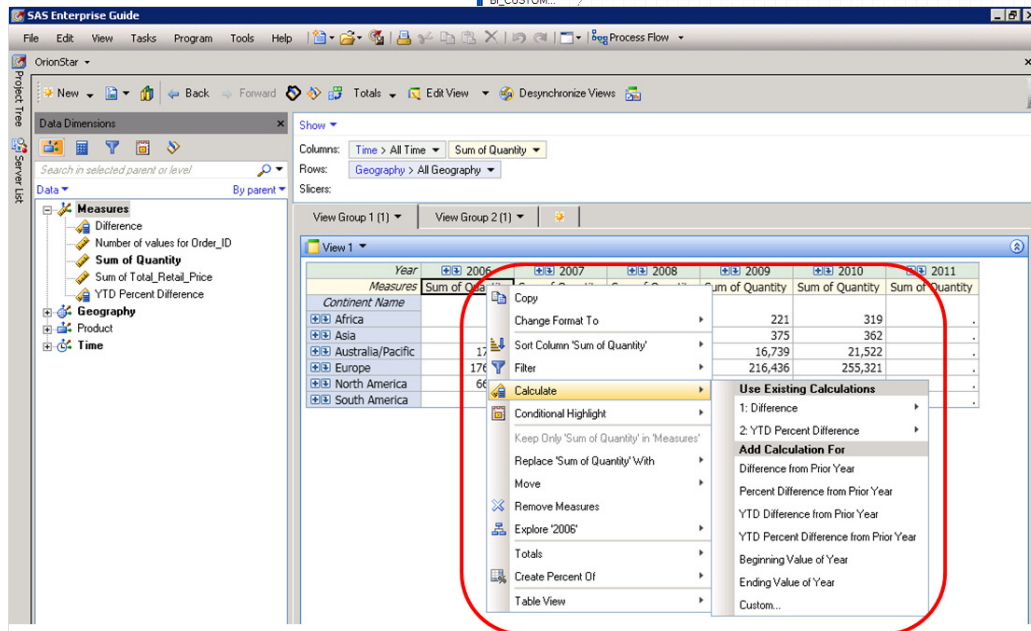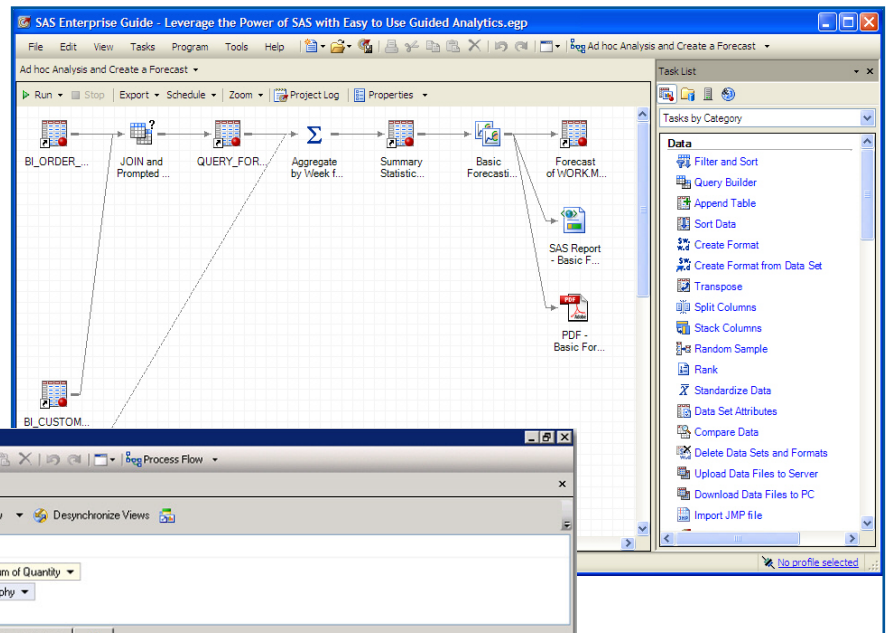
OLAP, and from MS Exchange mail servers. A powerful, graphical query builder lets users create, update, subset and join tables without involving IT specialists. This enables them to visually manipulate data without being SQL experts. They can preview the query code that is generated and check query syntax validity. Guided tasks also are provided for organizing information and transposing, ranking, normalizing and subsetting almost any enterprise data source.

Users have access to information created with the SAS Information Map Studio component of SAS Enterprise BI Server, which presents data and information in familiar terminology that business users can understand. There is no need for them to know about behind-the-scenes data joins and derived calculations. Business users can quickly access and update the data sources they need to create tables, charts and analytics, while leveraging a centralized system to ensure reports always contain the most up-to-date information.

OLAP Exploitation

A dedicated, intuitive and advanced interface is provided for analyzing business information stored in OLAP data cubes. The OLAP Analyzer supports all of the functionality required to navigate through multidimensional data, add topic-specific business calculations and extract information from multidimensional sources for further analysis with advanced statistical procedures or data mining. It also enables business users to share their results with others. It features drillable, interactive graphics and allows users to generate ad hoc queries for analytics based on cube data.

Users can slice and dice data as needed to explore the information, as well as drill through to underlying detailed data. Capabilities are provided for simple calculations, count analysis, rela-

Key Features

Graphical user interface

- Intuitive, flexible wizards provide access to SAS capabilities from reporting to complex analyses.
- A log is generated with information about processing, including notes, warnings and errors.
- Results can be delivered in HTML, RTF, PDF, SAS reports and text formats. Most results also can be output as SAS data sets for further analysis with other tasks. SAS report formats can be shared with SAS Web Report Studio and SAS Add-In for Microsoft Office.
- Graphs can be created as ActiveX (dynamic or image), Java Applets (dynamic or image), GIFs or JPEGs. ActiveX and Java Applets permit direct interaction with the graph objects without resubmitting requests to the server.
- An intuitive process flow diagram facility lets you visually organize and maintain your projects.
- Custom tasks enable you to easily extend the range of business problems that can be solved.
- The Data Explorer Tool lets you create custom views of data, quickly calculate basic charts and statistics for each column in a SAS data set and add a data exploration view to your project.

Reporting, graphical and analytical tasks

- Descriptive reports and analyses include basic listings, summary statistics tables, one-way frequencies tables, correlations tables and graphs, and tabular or graphical distribution analysis.
- Graphs include area charts, bar charts, box plots, bubble plots, donut charts, line plots, maps, pie charts, radar charts, scatter plots, surface plots and contour plots.
- Analysis of Variance (ANOVA) predictive models: t-test, one-way ANOVA, nonparametric one-way ANOVA, linear models and mixed linear models.
- Regression models: linear, logistic, nonlinear and generalized linear models.
- Multivariate relationship models: cluster analysis, factor analysis, principal components, canonical correlation and discriminant function analysis.
- Survival analysis: life table and proportional hazards.
- Capability analysis: CDF plots, histograms, P-P plots, probability plots and Q-Q plots.
- Control charts: mean and range, mean and standard deviation, individual measurements, box, p, np, u and c charts.
- Pareto charts.
- Forecasting: data transformation, basic forecasting, ARIMA modeling and forecasting, regression analysis with autoregressive errors and regression analysis of panel data.
- Table analysis.
- Operations research: numerical optimization, algebraic modeling language, project and resource scheduling, genetic algorithms and constraint programming.
- Integration with SAS Rapid Predictive Modeler lets business analysts and subject-matter experts quickly create predictive models and step through a workflow of data preparation tasks.

Data access and management

- Visually access any data type supported by SAS and native Windows data types via ODBC, OLE DB, OLE DB for OLAP (specifically SAS OLAP Server, Microsoft Analysis Services and SAP BW), and from MS Exchange mail servers. Accessible local file types include: Microsoft Word documents (embeddable in project files to help document your project work), Excel, HTML, Access, Lotus 123, Paradox, TXT files (fixed width), ASC files (ASCII), TAB delimited files and CSV files (comma delimited).
- Allows easy access of data (local and remote) for use in other SAS products or JMP®.
- Provides access to information maps created in SAS Information Map Studio.
- Powerful, graphical query builder allows users to visually access and manipulate their data without SQL expertise:
  - Join up to 256 tables simultaneously.
  - Save settings for reuse with query templates.
  - Use subqueries to include results from one query as input to another query.
  - Graphically or programmatically subset data to reduce the results to manageable sizes and identify the data you need.

tive contribution analysis and custom calculations such as time series analysis. Individual views on multidimensional information can be saved as bookmarks for easy reuse, and slices from multidimensional information can be provided to other analytical SAS procedures for advanced analysis.

SAS Enterprise Guide surfaces OLAP data sources from SAS OLAP Server or other third-party vendors supporting OLE DB for OLAP.

Result Distribution and Sharing

Result distribution and sharing is managed centrally by the IT department. SAS Enterprise Guide is integrated with the Microsoft Windows Scheduler, enabling those who need reports refreshed regularly to schedule the automated execution of the code required to generate the report at regular intervals. Planning task execution and publishing results to multiple channels, including shared report folders and portals, reduces the time it takes to deliver information across an organization.

SAS® Enterprise Guide® System Requirements

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

Key Features (continued)

- Parameterize data to interactively filter information.
- Organize information for easy viewing with a Select and Sort interface. Format existing variables and create new calculated variables.
- Visually build calculated variables from a comprehensive list of SAS functions.
- Preview generated query code, check the query syntax validity or copy the code for reuse in other applications.
- Use the program editor with autocomplete and integrated syntax for faster programming.
- Transpose data from long, narrow data to wide, short data, etc.
- Rank data in multiple ways: absolute, percentile, decile, quartiles, fractional, normal and Savage.
- Perform data subsets using a variety of basic and statistical methods.

OLAP access, visualization and manipulation

- Drill, dynamically slice and pivot data for exploration. Drill through to underlying detailed data.
- Calculation support includes simple calculations, count analysis, relative contribution analysis and custom calculations (e.g., time series analysis).
- Save specific views of multidimensional information as bookmarks for easy reuse.
- Use slices of multidimensional information in other SAS procedures for advanced analysis.
- Provides an MDX Viewer/Editor for more advanced users.
- Provides search functionality in the Cube Manager and MDX Editor.
- Surface OLAP data sources from SAS OLAP Server or other third-party vendors supporting OLE DB for OLAP (e.g., SAP BW and Microsoft Analysis Services).
- Change format of measures displayed in the OLAP Analyzer.
- Use the OLAP Analyzer to adjust values in the cube on OLAP servers that support write-enabled cubes.
- Includes an ESRI map interface with navigation and drawing tools.
- Provides integration with JMP for seamless access to 2-D and 3-D visual analysis.
- Includes automatic chart options for developing more meaningful analysis.

Result distribution and sharing

- Distribute results by publishing to multiple channels, including the SAS BI report/content repository, the SAS Stored Process Server, printers, Microsoft Office documents and email.
- Share results in the form of SAS Stored Processes for use in other applications.
- Open and refresh SAS Web Report Studio reports in a seamless, integrated fashion.
- Export results to other applications such as Adobe Acrobat and Microsoft Excel, Access, Outlook, Word and SharePoint.
- Update analyses and results on a periodic basis using the native Windows scheduler.

Administration and security

- Can be deployed with SAS Grid Manager to provide automated management of the computing grid with dynamic load balancing, resource assignment and job prioritization.
- Can be deployed and updated automatically via Microsoft SMS services.
- Is available as either a 32-bit or 64-bit application.

High-performance computing, grid enablement

- Automatically detects if a grid environment is available for more efficient processing.
- Lets you configure GUI Process Flow branches to run in parallel on different grid nodes.
- Analyzes SAS programs to optimize performance of code in the grid environment.
- Enables parallel execution of tasks on the same server.
- Enables you to run tasks at the project level or individual task level in a SAS grid environment.

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