



SAS® Desktop Data Mining for Midsize Business

Spot trends and identify business opportunities using predictive analytics and data mining in a desktop environment

What does SAS® Desktop Data Mining for Midsize Business do?

SAS Desktop Data Mining for Midsize Business is a rich, interactive solution for data exploration, visualization and model development that brings the power of predictive analytics to small and midsize businesses. Allowing users to explore and analyze organizational data within a desktop environment, the solution goes beyond simply reporting what happened and where to helping users discover why it happened and what is likely to happen next.

Why is SAS® Desktop Data Mining for Midsize Business important?

Increased competition and a volatile economy have made it imperative for small and midsize businesses to respond quickly to changing market conditions based on facts rather than intuition. With SAS Desktop Data Mining for Midsize Business, users get a proven set of descriptive and predictive modeling capabilities in one affordable, easy-to-deploy package that helps them make smart, evidence-based decisions in a timely manner.

For whom is SAS® Desktop Data Mining for Midsize Business intended?

The solution is designed for business and quantitative analysts at small and midsize organizations who need the rich functionality of a mature data mining solution to solve complex business problems within a PC-based environment.

Overview

With little margin for error in a fast-changing, unpredictable world, many small and midsize business leaders are turning to predictive analytics to help them make fact-based decisions for competitive advantage. SAS Desktop Data Mining for Midsize Business is a complete data mining workbench that gives small and midsize businesses the ability to explore organizational data right from their desktop.

The solution's strong visualization capabilities enable users to interactively manipulate data to discover hidden relationships and patterns not apparent in a static view. Using a point-and-click interface and a comprehensive ensemble of modeling algorithms, even novice analysts can make better models, faster. In one affordable and easy-to-use, easy-to-deploy package, SAS Desktop Data Mining for Midsize Business delivers data-driven insights to organizations of all sizes and skill levels – so business leaders can predict future trends, design and implement innovative strategies, and optimize decisions for a more successful tomorrow.

Key Benefits

- **Make reliable, evidence-based decisions.** With SAS, you can harness all your organizational data to uncover patterns and hidden relationships that help identify future trends, flag emerging issues and determine potential opportunities. Using powerful data mining capabilities combined with data preparation, exploration and enrichment, you can explore large amounts of relevant, quality data in a multidimensional manner to discover what's most significant for decision making.
- **Build better models, faster.** Rich, interactive visualization capabilities combined with an easy-to-use interface and SAS' exclusive SEMMA approach to data mining helps both experienced and less seasoned business analysts develop better models dramatically faster. Since no manual coding is required, the chance for error is reduced. Results can be presented in both statistical and business terms to give better insight to decision makers.
- **Reuse models to boost efficiency.** To streamline efforts and to overcome limitations of talent availability, analysts can save completed model diagrams for updates, later use by other people or to use in other projects.
- **Invest in a solution that grows with you.** This affordable, install-it-yourself solution is based on the same user interface and features as SAS® Enterprise Miner™, so there's a direct upgrade path as your needs grow.



Solution Overview

Analytic data preparation

Data preparation and quality are key components of the predictive modeling process. SAS Desktop Data Mining for Midsize Business provides powerful data exploration and preparation features so you can pull data from many different sources and make it available in a clear, concise format that's ready for analysis. The solution includes built-in data quality capabilities that assist with critical preprocessing tasks – such as merging files, choosing appropriate methods for handling incomplete

entries and missing values, grouping, and filtering for outliers. Advanced visualization capabilities let you examine large amounts of data in dynamically linked, multidimensional plots so you can spot trends and identify anomalies to variables most significant for model development.

Data visualization and exploration

For successful analysis, you must identify the right data. The rich, interactive visualization capabilities within the solution let you interact with your data to explore relationships, spot trends and delve into areas of interest – all using the familiar interface of Microsoft

Excel. Dynamic graphics highlight data from multiple angles and prompt faster insight into relationships that can be useful for making better decisions.

An integrated suite of industry-leading modeling techniques

This solution gives small to midsize businesses an affordable way to obtain a broad set of predictive and descriptive modeling algorithms that offer superior analytical depth in a desktop environment. The suite is regularly updated with new and innovative techniques to enhance prediction stability and accuracy – and it includes state-of-the-art methods, such as gradient boosting, hierarchical market baskets and least angle regression.

Model development, assessment and deployment with unprecedented ease

An interactive, easy-to-use graphical interface incorporates SAS' exclusive SEMMA (sample, explore, model, modify and assess) approach to guide users

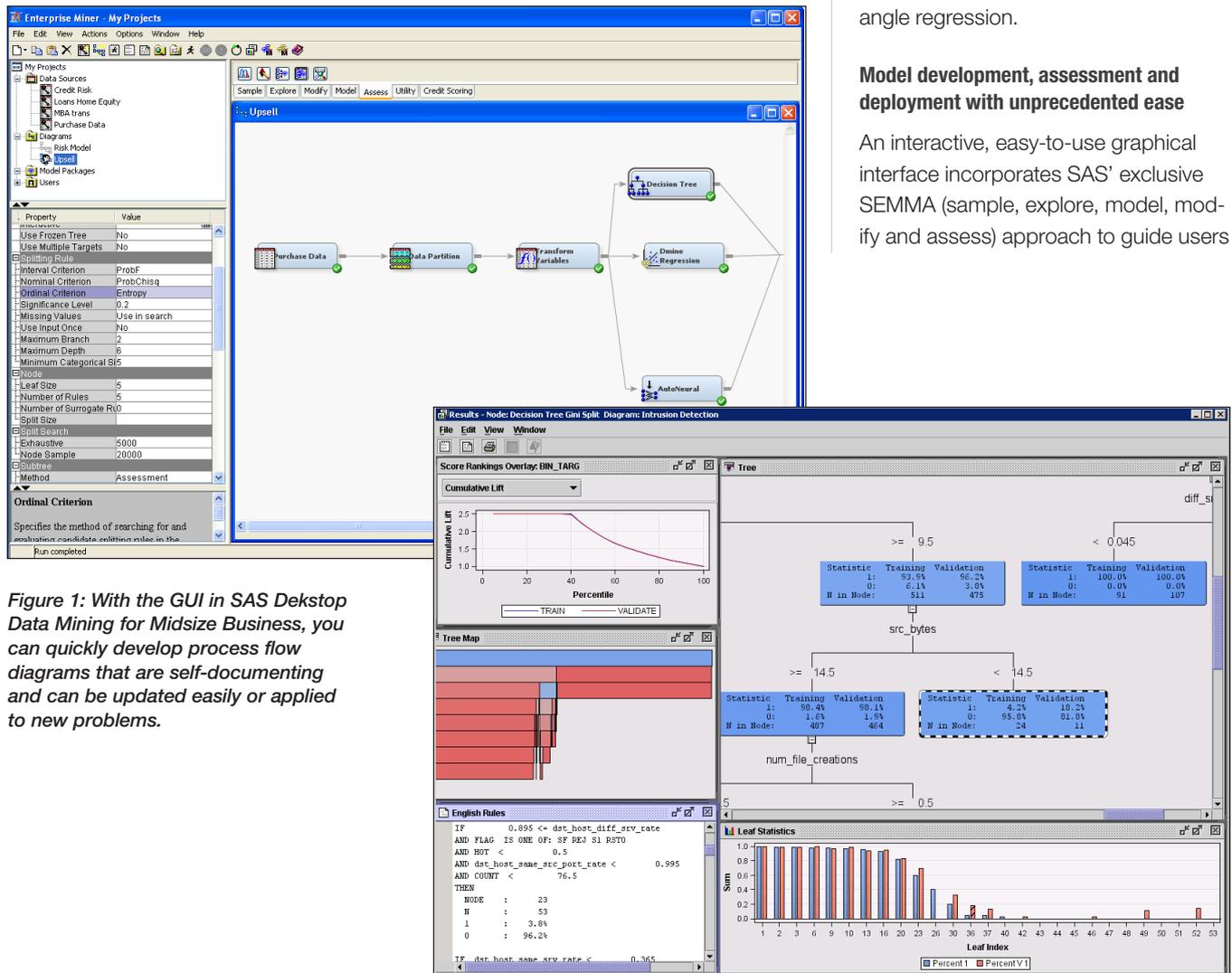


Figure 2: Develop decision trees interactively or in batch. Numerous assessment plots to help gauge overall tree stability are included.

in conducting all phases of data mining. This approach combines a structured process with a logical organization of analytical tools, so even novice analysts can create reliable analytical models for effective, evidence-based decisions. By enabling users to drag and drop analytical techniques directly into structured process flows, the solution eliminates the need for manual coding and dramatically reduces model development time.

The solution also offers a choice of basic, intermediate and advanced prebuilt models that even inexperienced users can modify or customize to quickly generate reliable predictive models that are specific to their own business needs and scenarios.

Numerous assessment tools are available to compare results from different modeling techniques. Because results are presented in both statistical and business terms, it's easy to compare and refine models and explain why a particular model is a better predictor.

After models are validated by scoring new data to test accuracy in the operational environment, users can simply deploy the resulting score code with the click of a button – avoiding time-consuming, error-prone manual intervention. Analysts can save the models as XML files, and reuse them with a few modifications as new data and variables come to light.

Model management and monitoring

The model development process needs to be properly documented to enable audits and to meet compliance requirements. This solution gives small to midsize businesses a self-documenting process flow diagram that efficiently maps the entire data mining process – ensuring that analytics are securely incorporated with decision-making processes.

Key Features

Analytic Data Preparation

- Pull data from many sources, ensure high quality and deliver it in a clear, concise format.
- Use advanced visualization capabilities to examine large amounts of data in dynamically linked, multidimensional plots.
- Manage critical preprocessing tasks using built-in data transformation capabilities:
 - Merge files.
 - Choose methods for handling incomplete entries and missing values.
 - Group, cluster and drop variables.
 - Filter for outliers.

Data visualization and exploration

- View data from multiple angles to spot trends and discover hidden relationships.

An integrated suite of sophisticated modeling techniques

- Benefit from a broad set of predictive and descriptive modeling algorithms.
- Use state-of-the-art methods:
 - Gradient boosting.
 - Hierarchical market baskets.
 - Least angle regression.

Model development, assessment and deployment with unprecedented ease

- Reduce model development time dramatically by conducting all phases of data mining with SAS' exclusive SEMMA approach.
- Drag and drop analysis or modeling algorithms directly into process flows to avoid manual coding.
- Reuse self-documenting templates for future updates or new problems.
- Compare results from different modeling techniques with numerous assessment tools.
- Click a button to automatically deploy validated score codes into daily business operations.
- Save models as XML files for later modification and reuse.

Model management and monitoring

- Shorten model development time with an interactive, easy-to-use, drag-and-drop process flow diagram approach.
- Map the entire data mining process with a self-documenting process flow diagram.

Technical Requirements

Client Environment

- Microsoft Windows (x86-32):
Windows XP Professional, Windows Server 2003, Windows Server 2008, Windows Vista*, Windows 7**
- Microsoft Windows on x64 (EM64T/AMD64): Windows XP Professional for x64, Windows Server 2003 for x64, Windows Server 2008 for x64, Windows Server 2008 R2 for x64, Windows Vista* for x64, Windows 7** for x64

*NOTE: Windows Vista Editions that are supported include Enterprise, Business and Ultimate.

**NOTE: Windows 7 Editions that are supported include Professional, Enterprise and Ultimate.

Required Software

- Base SAS®
- SAS/STAT®
- SAS Rapid Predictive Modeler requires SAS Enterprise Miner to generate predictive models. The SAS Rapid Predictive Modeler task is available from either SAS® Enterprise Guide® or SAS Add-In for Microsoft (Microsoft Excel only).



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