IBM SPSS Statistics: What's New

Discover tools and features to help you accelerate and simplify your analysis

Highlights

- Streamline analysis with powerful new algorithms

- Simplify scoring and output for direct marketers

- Create faster performing tables

- Run IBM SPSS Statistics Base Server on IBM System z hardware

Analytics plays an increasingly important role in helping your organization achieve its objectives. The IBM® SPSS® Statistics family delivers the core capabilities you need to take the analytical process from start to finish. To ensure that the most advanced techniques are accessible to a broader group of analysts and business users, we continually enhance the features and capabilities of IBM SPSS Statistics Base* and its many specialized modules.

IBM SPSS Statistics 19 includes improved tools, output and ease-of-use features to help you accelerate and simplify your data analysis. In this release, you'll find:

- Powerful new analytical capabilities designed to help both new and experienced analysts find the best solutions to their business challenges
- Performance improvements that enable you to work smarter and faster
- Expanded support for systems and technologies, making it easier for more users to benefit from predictive analytics

Our suite of statistical software is now available in three editions: IBM SPSS Statistics Standard, IBM SPSS Statistics Professional and IBM SPSS Statistics Premium. By grouping essential capabilities, these editions provide an efficient way to ensure that your entire team or department has the features and functionality they need to perform the analyses that contribute to your organization's success.

New algorithms streamline analysis

A new family of algorithms makes analytics more accessible to business analysts. The **Automatic Linear Models** procedure (ALM) gives users without in-depth statistical knowledge the tools to build powerful linear models automatically and predict numerical outcomes easily and accurately. Capabilities include:

- Automated data preparation to get data ready for analysis in a single step
- Techniques (such as boosting and bagging) to improve model stability and accuracy

* IBM SPSS Statistics Base was formerly called PASW® Statistics Base.

> *"IBM SPSS Statistics 19 is fast. It provides a good combination of thoughtful little improvements that make life easier for people who spend a lot of time with Statistics, as well as significant advances in tools like the Automatic Linear Models and the Model Viewer. IBM SPSS Direct Marketing is also much improved."*

— Victor Kogler
  Executive Director
  Alcohol and Drug Policy Institute

- Support for categorical predictors
- More variable selection methods, including best subsets
- Interactive visualizations that make results easier to understand and communicate
- Improved performance when building models on very large datasets. Models are built on subsets of the data which are then combined, reducing data passes. (Available in IBM® SPSS® Statistics Server** only.)

The ALM feature is available in both **IBM® SPSS® Statistics Base** and **IBM SPSS Statistics Server**.

With **Generalized Linear Mixed Models** (GLMM), a new option available with **IBM® SPSS® Advanced Statistics****, you can create more accurate models for predicting non-linear outcomes based on hierarchical/nested data or data that includes repeated measures. GLMM extends the linear model so that the target is linearly related to the factors and covariates through a specified link function, the target can have a non-normal distribution and the observations can be correlated. Using the visual interface, you can drag and drop fields onto a canvas to build your data structure and easily sort and filter variables in easy-to-use dialog boxes. Interactive visualizations allow you to view your results in many different ways and make changes as you go for greater understanding and insight.

Business analysts can use the improved default measurement level algorithm to focus on solving business problems rather than setting the level manually. With this feature, the software determines the best measurement level as soon as a data file is opened, eliminating a step from the analytical process.

Specialized techniques simplify analysis for marketers

Several new capabilities available in **IBM® SPSS® Direct Marketing**** make it easier to execute more successful marketing campaigns.

- An improved interface enables you to build models and score data directly within the module
- The Scoring Wizard lets you score new data easily
- "Smart output" helps explain the significance of statistical tests in terms that are easy for business users to understand
- Integration with Salesforce.com makes it easy to extract and analyze information on customers and opportunities

Performance improvements deliver speed and flexibility

Many performance improvements have been added in IBM SPSS Statistics 19 to help you speed analysis, explore data in new ways and deliver basic statistical capabilities to more end users.

** *IBM SPSS Statistics Server, IBM SPSS Advanced Statistics and IBM SPSS Direct Marketing were formerly called PASW® Statistics Server, PASW® Advanced Statistics and PASW® Direct Marketing.*

"Automatic Linear Models (ALM) is a great procedure for handling modeling of data – this is something we can add to our list of tools we can now offer our clients."

— Brian Robertson, PhD
   Director of Research, Market Decision

- **Faster performing tables** – Creating tables in the output is up to 200 percent faster than before, helping you save time when creating reports involving large tables or a large number of smaller tables. Tables are fully editable and take up less memory, so you can get the data you need quickly. This customer-requested feature is available in **IBM SPSS Statistics Base**.
- **Syntax Editor** – We've added more than a dozen performance and ease-of-use enhancements for the syntax editor, **available in all products in the IBM SPSS Statistics family**. Enhancements include tip displays of the "name," improved scrolling, improved indentation of lines and many more.
- **Statistics portal** – Provide any internal or external user with interactive online access to the analysis they need. Using the Statistics portal, you can filter data and provide users with rich capabilities for interacting with the output – but administrators remain in complete control of which results various analysts or departments can access and edit. The portal stores session and state information, eliminating the need to reinitiate a session each time a user submits a new request to connect to IBM SPSS Statistics Server – and enabling you to improve performance by 50 percent. Requires **IBM SPSS Statistics Server and IBM® SPSS® Collaboration and Deployment Services***.
- **Compiled transformations** – Professional analysts who work with large amounts of data will benefit from this new feature in **IBM SPSS Statistics Server**, which improves the performance of IBM SPSS Statistics programs that execute a large number of data transformations (recodes, computes, etc.).

Ease-of-use enhancements and support for additional operating systems

Analysts using **IBM SPSS Statistics Base** can now easily score new customer data, access pre-built models and interface directly with data in Salesforce.com. They can also pivot columns and crosstabulations in IBM SPSS Statistics Base and in **IBM® SPSS® Custom Tables**.

IBM® SPSS® Exact Tests*** now enables you to work with smaller and sparse datasets on Linux® and Mac® operating systems.

You can also run IBM SPSS Statistics Base Server on IBM System z® machines for powerful, enterprise-wide analysis. Requires SuSE Linux®.

Gain greater value with collaboration

To share and re-use assets efficiently, protect them in ways that meet internal and external compliance requirements and publish results so that a greater number of business users can view and interact with them, consider augmenting your IBM SPSS Statistics software with IBM SPSS Collaboration and Deployment Services. More information about these valuable capabilities is available at **www.spss.com/software/deployment/cds**.

*** IBM SPSS Exact Tests and IBM SPSS Collaboration and Deployment Services were formerly called PASW® Exact Tests and PASW® Collaboration and Deployment Services.*

System requirements

IBM SPSS Statistics 19 for Windows
Operating system
- Microsoft® Windows® XP (Professional, 32-bit) or Vista® (Home, Business, 32- or 64-bit) or Windows 7 (32- or 64-bit)

Hardware
- Intel or AMD x86 processor running at 1 GHz or higher
- Memory: 1 GB or more recommended
- Minimum free drive space: 800 MB*
- DVD drive
- Super VGA (800x600) or higher-resolution monitor
- For connecting with an IBM SPSS Statistics Server, a network adapter running the TCP/IP network protocol

Browser
- Internet Explorer® 7 or 8

IBM SPSS Statistics 19 for Mac OS X
Operating system
- Apple Mac OS 10.5 (Leopard™) or 10.6 (Snow Leopard®) (32-bit or 64-bit versions)

Hardware
- Intel processor
- Memory: 1 GB or more recommended
- Minimum free drive space: 800 MB*
- DVD drive
- Super VGA (800x600) or a higher-resolution monitor

Browser
- Web browser: Mozilla® Firefox® 2.x and 3.x

IBM SPSS Statistics 19 for Linux
Operating system
- Any Linux OS that meets the following requirements (32-bit only):
- Kernel 2.6.3
- glibc 2.8
- libstdc++5
- XFree86-4.7

Hardware
- Processor: Intel or AMD x86 processor running at 1 GHz or higher
- Memory: 1 GB or more recommended*
- Minimum free drive space: 800 MB*
- DVD drive
- Super VGA (800x600) or a higher-resolution monitor

Browser
- Mozilla Firefox 2.X and 3.X

IBM SPSS Statistics modules
Requirements vary by platform.

IBM SPSS Amos 19
Operating system
- Windows XP or Windows Vista

Hardware
- Memory: 256 MB RAM minimum
- 125 MB or more available hard-drive space

Other:
- Web browser: Internet Explorer 6
- Microsoft .NET Framework 3.5 SP1 or higher

IBM SPSS Statistics Server
Operating system
- Microsoft Windows Server 2008 or 2003 (32-bit or 64-bit); Sun™ Solaris™ 9 or 10 (SPARC 64-bit machine); IBM® AIX® 5.3 or 6.1; IBM zSeries running Linux, 64-bit only (PowerPC); HP-UX™ 11i v3 (64-bit Itanium); or Red Hat® Enterprise Linux 4x or 5 (32-bit and 64-bit), Advanced Platform (32-bit and 64-bit) or Advanced Server 4x (64-bit)

Hardware
- Minimum CPU: Two CPUs recommended, running 1 GHz or higher
- Memory: 8 GB RAM
- Minimum free drive space: 500 MB for installation. Additional space is required to run the program (for temporary files)
- Other: A network adapter running the TCP/IP protocol

Installing Help in all languages requires 1.1 GB free drive space

Get more value with every release

If you're using an earlier version of IBM SPSS Statistics, you'll gain all of these time-saving features – and many more– when you upgrade to version 19.

Added in IBM SPSS Statistics 18

- Prepare data in a single step using the new Automated Data Preparation feature
- New Nonparametric tests in IBM SPSS Statistics Base
- Post computed categories in IBM SPSS Custom Tables
- IBM SPSS Direct Marketing module
- IBM SPSS Bootstrapping module
- Rule checking on Secondary SPC Charts
- IBM SPSS Statistics Developer
- Ability to view significance tests in the main results table in IBM SPSS Custom Tables
- Interactive Model Viewer on Two-Step Cluster Analysis and Automated Data Preparation procedures
- Improved display of large pivot tables
- Improved performance on procedures within IBM SPSS Statistics Base Server for Frequencies, Descriptives, Crosstabs
- Support for 64-bit hardware on desktop for Windows and Mac
- Support for Snow Leopard® on Mac OS X 10.6

Added in IBM SPSS Statistics 17

- Syntax Editor with features to make it easier to create, test and deploy syntax jobs
- Switch user interface language
- Mac OS X and Linux platforms can connect clients to IBM SPSS Statistics Server
- Updated plug-ins for Python®, .NET® and R
- Support for graphic packages written in R
- Create user-defined interfaces for existing procedures and user-defined procedures with Custom Dialog Builder
- Call front-end Python scripts or scripting APIs explicitly from within back-end Python programs
- Support for Predictive Enterprise View, a common data interface that can be defined once and used by all IBM SPSS analytic tools
- Administrative enhancements in IBM SPSS Statistics Server, including optimized multithreading, virtualization support and a "file in use" message to reduce errors in data created by more than one person writing to an IBM SPSS Statistics file at the same time
- Read access to IBM SPSS Statistics data files as an ODBC/JDBC data source, allowing these files to be read using SQL

- Codebook procedure to automatically describe the dataset
- Spell-checking of long text strings
- IBM SPSS EZ RFM module
- Multiple imputation of missing data in IBM SPSS Missing Values module
- Regularization methods: Ridge regression, the Lasso, Elastic Net in IBM SPSS Categories
- Model selection methods: 632(+), bootstrap, cross validation (CV), in IBM SPSS Categories
- Nearest Neighbor analysis in IBM SPSS Statistics Base
- Median transformations function in COMPUTE procedure
- Option to use aggressive versus conservative rounding in COMPUTE procedure
- Create new variables that contain the values of existing variables from preceding or subsequent cases
- Graphboard integration, enabling users of IBM SPSS Statistics products to deploy new or customer graph templates created in the new IBM SPSS Visualization Designer stand-alone module
- Wrapping and shrinking of wide tables in Word and PowerPoint®
- Smartreader feature to allow the viewing and pivoting of IBM SPSS Statistics output

Added in IBM SPSS Statistics 16

- Mac and Linux versions of IBM SPSS Statistics
- Several multithreaded procedures for improved performance and scalability
- In the Data Editor: ability to customize variable view, spell checking for value labels and variable labels, sort by variable name, type, format, etc.
- Unicode support
- Import/export Excel 2007 data
- Syntax to change string length and basic data type of existing variables
- Creation of value labels and missing values on strings of any length
- Ability to set a permanent default working directory
- IBM SPSS Neural Networks module
- Complex Samples Cox Regression added to IBM SPSS Complex Samples
- Latent Class Analysis in IBM SPSS Amos
- Partial Least Squares regression
- Support for R algorithms
- Find and Replace feature in the Output Viewer

Added in IBM SPSS Statistics 15

- Control the flow of your syntax jobs or create your own user-defined algorithms using external programming languages (through the IBM SPSS Statistics Programmability Extension)
- Python programming language included
- Ability to create first-class, user-defined procedures
- Syntax control of output files
- Updated PMML to include transformations
- Single administration utility for IBM SPSS Statistics Base Server, IBM SPSS Modeler and IBM SPSS Collaboration and Deployment Services
- Stripe temporary files over multiple disks for increased performance (in IBM SPSS Statistics Base Server)
- Data-free client (in IBM SPSS Statistics Base Server)
- In-database data preparation (sort and aggregate) to improve performance (in IBM SPSS Statistics Base Server)
- Predictor Selection and Naïve Bayes algorithms (in IBM SPSS Statistics Base Server)
- Export to Database Wizard

- Optimal Binning (in IBM SPSS Data Preparation add-on module)
- Subset variable views
- Generalized linear models (in IBM SPSS Advanced Statistics)
- Generalized estimating equations (in IBM SPSS Advanced Statistics)
- Ordinal regression to model ordinal outcomes (in IBM SPSS Statistics Base)
- Complex samples ordinal regression (in IBM SPSS Complex Samples)
- Estimation and imputation of ordered-categorical and censored data (in IBM SPSS Amos structural equation modeling software)
- Dual-Y axis and overlay charts
- Enhanced process control charts
- Export output to PDF
- Network license reservations and priority settings
- Network commuter license
- License manager redundancy

For more information on the latest version of IBM SPSS Statistics, please contact your sales representative or your local office.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, predictive analytics, financial performance and strategy management, and analytic applications provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage.

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Business Analytics software