IBM SPSS Statistics: What's New

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

Highlights

Advanced techniques for analysts and business users.

- Add a geographic dimension to your analysis and reporting capabilities with geospatial data mapping
- Create output tables five times faster
- GLMM procedure can be run with ordinal values
- Non-graphical, programmatic method for specifying models in IBM SPSS Amos
- Run IBM SPSS Statistics Server jobs offline by disconnecting the SPSS Statistics client
- Further productivity improvements

Analytics plays an increasingly important role in helping your organization achieve its objectives. The IBM SPSS Statistics family delivers the core capabilities needed for end-to-end analytics. To ensure that the most advanced techniques are available to a broader group of analysts and business users, we have made enhancements to the features and capabilities of IBM SPSS Statistics Base and its many specialized modules.

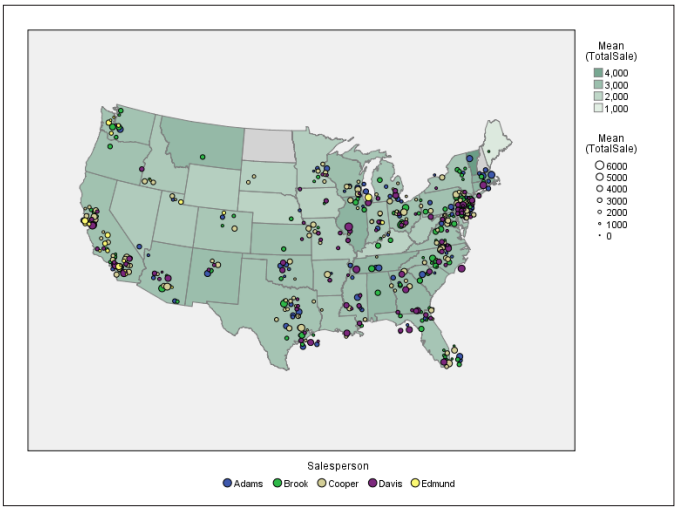
IBM SPSS Statistics 20 continues to increase accessibility to advanced analytics through improved tools, output, and ease-of-use features. This release focuses on increasing the analytic capabilities of the software through:

- Mapping, which adds a geographic dimension to analysis and reporting
- Improvements to existing procedures
- Enhancements that increase analysts' productivity

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 geospatial data mapping capability

View the results of your analysis geographically with map templates available through the Graphboard Template Chooser. Create different types of visualizations, such as Chloropleth (color maps), maps with mini-charts and overlay maps, to help you plan, target and forecast more effectively. IBM SPSS Statistics ships with several map files – or you can use the Map Conversion Utility to convert existing map shapefiles for use with the Graphboard Template Chooser.



In this choropleth map, the color of each U.S. state corresponds to the mean total sale amount. In addition, points are used to identify each transaction's location (based on latitude and longitude co-ordinates), mean total sale amount (depicted by point size), and salesperson (depicted by point color).

Adding a geographic dimension to your analysis and reporting capabilities means you can present key information in an easily understood format that allows business decision-makers to more easily target, forecast, and plan by geographical area. The mapping feature can be used across many sectors such as:

- Marketing – map campaign effectiveness scores.
- Retail – store planning and allocation maps.
- Law enforcement – map crime reports to easily vizualize hot spots.
- Academic – map students' test scores.

IBM SPSS Statistics 20 comes with sample boundary files, including the US states, countries, continents, and prebuilt map templates such as Choropleth, Coordinate, Mini-Chart and Overlay. In addition, SPSS Statistics 20 can convert ESRI files for analysis.

Tables draw five times faster

IBM SPSS Statistics 19 introduced faster tables -- and in SPSS Statistics 20, table generation is faster still: tables render almost instantly.

The entire table is drawn up to five times faster than before, and is easily navigated, increasing productivity and producing results more quickly.

Improved analytics for IBM SPSS Advanced Statistics

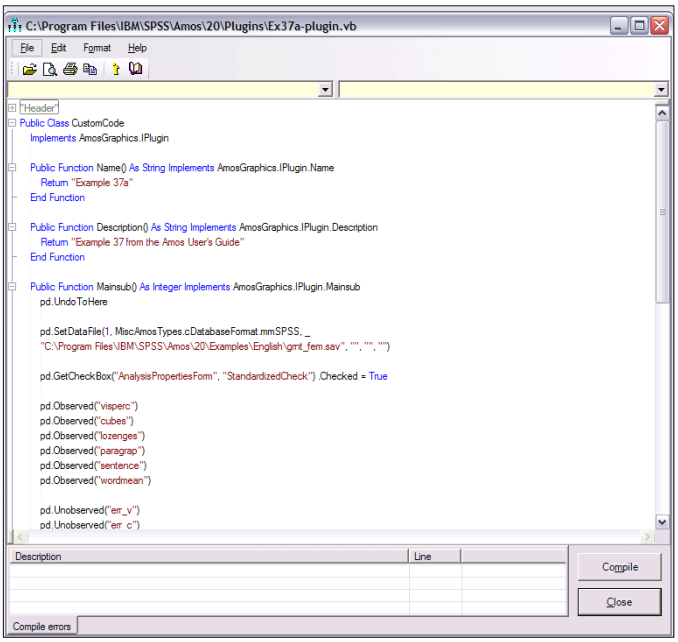
Each new edition of IBM SPSS Statistics has introduced improved analytical capabilities, and SPSS Statistics 20 is no different.

With this release, the GLMM procedure can be run with ordinal values. This enables you to build more accurate models when predicting nonlinear outcomes (such as whether a customer's satisfaction level will fall into the "low", "medium" or "high" category).

Better access to IBM SPSS Amos

IBM® SPSS® Amos 20 introduces a non-graphical, programmatic method for specifying models. This offers:

- Improved accessibility for those who can benefit by specifying models directly
- Improved productivity for users who need to run large, complicated models
- An easy way to generate many similar models that differ slightly



IBM SPSS Amos now allows you to create structural equation models programmatically. This capability is useful for: (a) a model that is so complex that drawing its path diagram is difficult; (b) those who prefer working either with a keyboard rather than a mouse or with text rather than graphics; (c) those who need to generate many similar models that differ only in some details (such as the number of variables or the variable names).

Serving productivity improvements

We've also made technological improvements to IBM® SPSS® Statistics Server 20 that will enhance analytical productivity:

- IBM SPSS Statistics Server can now run jobs offline by disconnecting the SPSS Statistics client from the network.
- Gives users the ability to work on other projects without risking the success or completion of the analysis or output.
- The client can be reconnected at any time to check the status of the job.

Other productivity improvements include:

- Saving sort files with the sort procedures to avoid an extra data pass in IBM SPSS Statistics.
- Compressing temporary files created by the sort procedure. This saves disk space when sorting large files on SPSS Statistics Server.

Gain greater value with collaboration

To share and efficiently distribute assets, 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 IBM® SPSS® Collaboration and Deployment services. More information about its valuable capabilities can be found at **www.ibm.com**/spss/cds.

System requirements

IBM SPSS Statistics 20 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
- XGA (1024x768) or higher-resolution monitor
- For connecting with an IBM SPSS Statistics Server, a network adapter running the TCP/IP network protocol

IBM SPSS Statistics 20 for Mac OS X

Operating system

- Apple Mac OS 10.6 (Snow Leopard) or 10.7 (Lion) (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

IBM SPSS Statistics 20 for Linux™

Operating system

SPSS Statistics was tested on and is supported on only Red Hat Enterprise Linux 5 and 6 and Debian 6. We do not expect any problems with distributions derived from Red Hat and Debian, but we do not test or support them.

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
- XGA (1024x768) or a higher-resolution monitor

IBM SPSS Statistics modules

Requirements vary by platform.

IBM SPSS Amos 20

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

** Installing Help in all languages requires 1.1 GB free drive space*

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

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 20.

Added in IBM Statistics 19

- Automatic Linear Models (ALM) gives non-specialist users the tools to build powerful linear models automatically and predict numerical outcomes
- Generalized Linear Mixed Models (GLMM), in IBM SPSS Advanced Statistics, lets you create more accurate models for predicting non-linear outcomes based on hierarchical/nested data or data that includes repeated measures
- Several new capabilities in IBM® SPSS® Direct Marketing
- Faster performing tables in IBM® SPSS® Statistics Base
- More than a dozen performance and ease-of-use enhancements to the Syntax Editor, available in all products in the IBM SPSS Statistics family
- The Statistics portal provides internal or external users with interactive online access to analysis (requires SPSS Statistics Server and IBM SPSS Collaboration and Deployment Services)
- Compiled transformations is a feature in IBM SPSS Statistics Server that improves the performance of IBM SPSS Statistics programs that execute a large number of data transformations
- Analysts using IBM SPSS Statistics Base can score customer data, access pre-built models and interface directly with data in Salesforce.com
- Pivot columns and crosstabulations in IBM SPSS Statistics Base and IBM® SPSS® Custom Tables
- Work with smaller and sparse datasets on Linux and Mac operating systems in IBM® SPSS® Exact Tests
- Run IBM SPSS Statistics Base Server on IBM System z (requires SuSE Linux)

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 actionable insights decision-makers need to achieve better business performance. IBM offers a comprehensive, unified portfolio of business intelligence, predictive and advanced analytics, financial performance and strategy management, governance, risk and compliance and analytic applications.

With IBM software, companies can spot trends, patterns and anomalies, compare "what if" scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

For more information

For further information or to reach a representative please visit **ibm.com/**analytics.

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