IBM SPSS Statistics Server

Analyze large datasets, improve performance

Highlights

Achieve optimal performance, productivity and efficiency with SPSS Statistics Server.

• Analyze massive data files faster
• Support distributed offices with highly efficient analytic processing
• Improve analyst productivity
• Enhance security for sensitive data and intellectual property

IBM SPSS Statistics Server offers all the features of IBM® SPSS® Statistics but with faster performance because the processing is centralized on the server machine. Ideal for organizations with distributed offices, it improves productivity by eliminating the need to transfer data files to the desktop. It offers analytical procedures not available on the client versions of SPSS Statistics and provides superior performance for even the largest datasets. Its powerful client/server architecture is the combination of two products:

• SPSS Statistics client software, for in-depth data exploration, analytical reporting and modeling
• SPSS Statistics Server software, which scales from handling the analytical jobs of a single department to handling jobs for hundreds and even thousands of users across an organization

When you combine the strength of world-class analytical tools and techniques with the flexibility and speed of server functionality, you have a powerful solution for supporting better decision making throughout your enterprise.

Achieve faster performance

IBM SPSS Statistics Server is designed to ensure optimal performance when working with large datasets having multiple predictors. There is no limit the number of CPUs or cores that an analytical procedure can use, and no limit the number of threads that can be used for multithreaded procedures. Operations like sorts and aggregations can be pushed back to the database, where they can be performed faster. Temporary files created by analytical procedures can be striped over multiple disks, and large files can be compressed to save disk space when sorting, improving performance and speeding up analysis.
Increase analyst productivity
IBM SPSS Statistics Server delivers high-performance capabilities that provide analysts with significant gains in efficiency and productivity. For example, they can run multiple analytical jobs at the same time while continuing to work on their desktops at other tasks. With the latest release, they can also continue to run server jobs while disconnected from the server without sacrificing the quality of their analysis or output, then reconnect to the server to access their completed jobs. In addition, administrative controls support assigning priorities so that resources are reserved for high-priority users.

Improve efficiency for distributed offices
Because it can take a significant amount of time to transfer data among offices, SPSS Statistics Server is particularly beneficial for organizations that conduct analysis in multiple locations. When SPSS Statistics clients are configured to connect to SPSS Statistics Server, all the analysis is done on the server machine, which is typically co-located with the data in a central data center. This eliminates the need to transfer data over the network, improving bandwidth utilization and the overall performance of applications across the network.

Automate repeated tasks
SPSS Statistics Server provides a batch facility (StatisticsB) that makes it easy to automate and schedule repeated tasks – for example, reports that need to be generated at regular intervals or data preparation involving large datasets that can be performed during off-peak hours. By automating such time-consuming tasks, your organization obtains information efficiently while making better use of your analysts’ and administrators’ time.

Improve security and standardization
Analysis is often performed on data that are of a sensitive nature or are part of the intellectual property of the organization. In several industries, government regulations protect the confidentiality of privileged data. With SPSS Statistics Server, data are typically stored in a central location instead of on a local desktop where they could be compromised more easily. Because data is centralized, standards can be enforced to ensure that all analysts are using the latest versions of a syntax or data file.

Make better use of existing hardware
SPSS Statistics Server is supported on a wide variety of operating systems, including Microsoft® Windows® 2003 and 2008, Sun™ Solaris™, Linux®, HP/UX, IBM® AIX®, and IBM System z® (requires SuSE Linux®).

Secure access for analysts on the go
Analysts working remotely or traveling may need to analyze data within your firewall, and naturally you will want to be sure that this does not compromise the confidentiality of the underlying data or performance. SPSS Statistics Server supports Secure Sockets Layer (SSL) to encrypt the communication between a client and a server. Tunneling protocols and NAT are also supported. Remote users experience faster performance, as the data does not have to be downloaded to the end users’ machines.

Gain more from your investment
To gain the greatest value from analytical initiatives, it is important to be able to efficiently leverage the intellectual capital within your organization. When SPSS Statistics Server is integrated with IBM® SPSS® Collaboration and Deployment Services, you benefit from sophisticated automation, scheduling and deployment capabilities. With just a few clicks, an analyst can publish the results to a portal that can be directly accessed by business users. Additionally, the entire process of running jobs and publishing results can be automated.

Leverage enhanced scalability
When integrated with SPSS Collaboration and Deployment Services, SPSS Statistics Server can be clustered to provide network load balancing and failover protection. This ensures that SPSS Statistics Server can seamlessly scale from meeting the analytic needs of a single department to meeting those of hundreds and even thousands of users across the enterprise.

Use advanced analytics and scoring
SPSS Statistics Server provides the Naïve Bayes algorithm and the Select Predictor procedure, both of which are designed to make it easier to build models efficiently and accurately with wide datasets (those with numerous predictors). It also features a scoring engine that can be used to score new data. Users can open multiple XML models created in SPSS Statistics or IBM® SPSS® Modeler and score new data with these models.
Features

Client/server architecture
- Reduce network traffic because data reside on the server and are not brought down to users’ machines for analysis
- Analyze massive datasets faster using server-grade hardware
- Increase analytical speed by letting your server do the heavy computation work, freeing your desktop for other tasks

Faster performance
- No limit to the number of CPUs/Cores that a multi-threaded procedure can use
- Operations like sorts and aggregation can be performed faster by being pushed back to the database
- New! Support for compression of large temporary files during sort procedure
- New! Ability to save sorted file within the sort procedure eliminates an extra data pass
- Support for data compression of temporary files created during analysis minimizes time-consuming disk I/O
- Support for PSM techniques to improve performance and scalability when working with very large datasets (available only with Automatic Linear Modeling)
- Support for compiled transformations improves performance of commonly used data manipulation procedures such as computes and recodes
- Client/server architecture mitigates the need to transfer large files between offices
- Support for 64-bit hardware improves performance when working with large datasets
- Because analyses and data access are performed on the server, users’ desktops are freed for other tasks
- Users can run multiple jobs from a single desktop without compromising desktop performance

Advanced Analytics
- Naïve Bayes algorithm: Predict classification of cases by treating each variable as independent or equal
- Predictor Selection algorithm: Filter large amounts of irrelevant data to obtain only the variables relevant for modeling

Copy-free data access in SQL DBMS
- Cache data accessed from a database for faster access

Ability to launch multiple sessions
- Run multiple sessions of SPSS Statistics simultaneously on the same desktop

Security
- Work efficiently within your vendor’s security framework
  - Set security levels and require passwords to access data sources
  - Support SSL technologies
  - Enable remote users to analyze data off-site while keeping the data and SPSS Statistics Server safely behind a firewall using modern internationalized communications protocols included with SPSS Statistics Server:
    - Point-to-Point Tunneling Protocol (PPTP)
    - Level 2 Tunneling Protocol (L2TP)
    - Network Address Translation (NAT)
  - Prevent analysts from seeing a data view

Client/server compatibility
- Users can easily switch between client and server modes
- Work in a multi-platform environment (for example, use a Windows client with a UNIX® server)
- Work in multiple locations (for example, Japanese and French SPSS Statistics clients can be attached to a single English version of SPSS Statistics Server)

Statistics Batch Facility (StatisticsB)
- Automate production of SPSS Statistics data preparation and statistical reports through command syntax files in a UNIX script or Windows batch files without requiring an active and connected SPSS Statistics client
- Output formats: Text, HTML, XML, SAV, SPV
- Save prepared data to the SPSS Statistics (SAV) file format
- Manipulate the output using OMS commands

Administrator controls
- Monitor and manage SPSS Statistics usage on the server
  - Start/stop user sessions
  - Start/stop server processes
  - Log events
  - Assign priority to individual users
  - Assign a unique disk to individual users for temporary files
  - Disconnect users
- Use a single Administrative Utility to work with SPSS Statistics, SPSS Modeler and SPSS Collaboration and Deployment Services

System requirements
Requirements vary according to platform. For details, see www.ibm.com/spss/requirements.
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.

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