What does SAS® Visual Analytics do?
SAS Visual Analytics provides deeper analytical insights from huge amounts of data through engaging exploratory analysis of all your data. There is no need to subset or sample data. High-performance capabilities enable you to use your big data to obtain more precise insights much faster than previously possible.

Why is SAS® Visual Analytics important?
The ability to explore huge volumes of data simultaneously by many users, combined with SAS software’s very powerful high-performance analytics, gives organizations an unprecedented way to tap into big data to surface unexpected insights, provide answers to complex questions and identify new and better courses of action more quickly. In addition, SAS Visual Analytics also enables you, via the Web and mobile devices, to share information gleaned from data discovery using visual reports and KPIs.

For whom is SAS® Visual Analytics designed?
SAS Visual Analytics supports data discovery and exploration for users across your organization, from decision makers and analysts to statisticians and data scientists. It also provides an easy way for IT staff to protect and manage the data and systems to ensure they are healthy and secure for everyone.

SAS® Visual Analytics
Visually explore big data using high-performance, in-memory capabilities to glean precise insights faster and publish results to the Web and mobile devices.

Organizations today are collecting massive amounts of data, yet traditional architectures and existing infrastructures do not have the capacity or capabilities to perform fast analytical processing on all of the big data at one time.

In addition, IT is burdened with ever-growing requests for data, ad hoc analyses and one-off reports. Decision makers become frustrated because it takes too long, or is even impossible, to produce the reports they need and get fast answers to key questions. And more and more, they want information they can access from an iPad® and other mobile devices.

SAS Visual Analytics combines an easy-to-use dynamic interface and powerful in-memory technology to enable all types of users to visually explore big data, execute analytic correlations on billions of rows of data in minutes or seconds, gain insights into what the data means and deliver the results quickly wherever needed via Web reports and mobile devices.

Key Benefits

- Empower all users with big data exploration techniques and approachable analytics to drive improved decision making.
  SAS Visual Analytics enables different types of users to conduct fast, thorough explorations on all available data. Subsetting or sampling of data is not required. Easy-to-use, interactive Web interfaces broaden the audience for analytics, enabling everyone to glean new insights. Users can look at more options, make more precise decisions and drive success even faster than before.

- Answer complex questions faster, enhancing the contributions from your analytic talent. SAS Visual Analytics augments the data discovery and exploration process by providing extremely fast results to enable better, more focused analysis. Analytically savvy users can identify areas of opportunity or concern from vast amounts of data so further investigation can take place quickly.

- Improve information sharing and collaboration. Large numbers of users, including those with limited analytical skills, can quickly view and interact with reports and charts via the Web, Adobe PDF files and iPad mobile devices, while IT maintains control of the underlying data and security. SAS Visual Analytics provides the right information to the right person at the right time to improve productivity and organizational knowledge.

- Liberate IT by giving users a new way to access the information they need. Free IT from the constant barrage of demands from users who need access to different amounts of data, different data views, ad hoc reports and one-off requests for information. SAS Visual Analytics enables IT to easily load and prepare data for multiple users. Once data is loaded and available, users can dynamically explore data, create reports and share information on their own.

- Provide room to grow at a self-determined pace. SAS Visual Analytics provides the option of using commodity hardware or database appliances from EMC Greenplum and Teradata to support increasing demands for fast access to big data. It is designed from the ground up for database optimization and scalability.
Product Overview

SAS Visual Analytics combines high-performance analytics and an extremely visual, easy-to-use exploration interface to enable organizations to derive value from massive amounts of data faster than ever before. This creates an unprecedented opportunity to solve difficult problems, improve business performance and mitigate risk – rapidly and confidently.

High-performance SAS® LASR™ Analytic Server

The SAS LASR Analytic Server provides the foundation for this solution and delivers the game-changing ability to accelerate analytic computations. Because of its in-memory capabilities and the ability to take advantage of massively parallel processing (MPP) environments, SAS Visual Analytics provides extremely fast processing of huge amounts of data, out of the box.

Environment and data administration for IT

SAS Visual Analytics empowers many types of users. With easy-to-use administration tools, IT is able to set up a single working environment that allows business users, data scientists and information consumers to perform their individual functions from within the same application environment. IT staff and data architects can easily load and prepare data for multiple users, translating data structures into terms that everyone can understand, as well as define and apply business rules in a consistent manner. With the ability to control which data, and the volume of data, that can be accessed and retrieved, IT maintains control of the data without infringing on users’ productivity and need for flexibility. Once the data is loaded and made available, users can explore and query the data as needed. IT is no longer forced to respond to the incessant demand for new views of data or one-off reports.

Visual data exploration

Once IT has loaded data from any source into the SAS LASR Analytic Server, SAS Visual Analytics empowers users of all types to visually and interactively explore data to gain insights and discover patterns and trends for further analysis. The interactive, Web-based exploratory analysis application delivers many capabilities that enable users, including those without analytical expertise, to extend their use of analytics to gain more precise insights.

Nontechnical users will find it easy to create and change queries by selecting items to be displayed from a sidebar or dynamically filtering and grouping data items. Other features that broaden the audience for understanding data and gaining analytic insights are drag-and-drop capabilities and autocharting. Autocharting automatically selects the chart that best suits the type of data that is chosen. The “what does it mean”...
balloons provide explanations of complex analytic functions and data correlations in a way that empowers everyone with a confident understanding of the data. In addition, analytically savvy users can spot trends more quickly and more easily find meaning from huge data volumes. This eliminates much of the everyday trial-and-error process when trying to define areas for further analysis. For everyone, there are many compelling visuals to choose from for displaying results, including animated bubble charts, so that it is possible to quickly ascertain new insights.

**Self-service approachable analytics**

Large data sources are easily conquered and analyzed with the in-memory SAS LASR Analytic Server. Features are tailored for different skill levels, giving a wide variety of users the ability to explore data autonomously without learning new skills or engaging IT. It is very easy to explore and seek correlations between extremely large numbers of variables. Build-it-yourself hierarchies eliminate the need for data analysts to constantly seek help from IT. It is easy to drill up and down through the hierarchies and slice and dice data on any level. This can really help advanced analysts seeking to explore more data more quickly, and it also removes the complexity of data structures for nontechnical users. They can easily and interactively move through the different levels of data.

**Web-based report building and distribution**

SAS Visual Analytics provides report-building capabilities for different skill levels. Specialized groups or business users can build reports within boundaries established by IT. Extensive presentation layouts speed report creation. With a comprehensive suite of graphical data presentation options, users can create and easily incorporate charts and plots in reports. It is easy to design and produce business graphics, apply

---

**Key Features**

**High-performance SAS® LASR™ Analytic Server**

- Optimized for distributed computing environments to leverage parallel processing capabilities of many nodes, in essence creating a SAS super-computing environment.
- Can be used on commodity hardware or on database appliances from our partners EMC Greenplum and Teradata.

**Environment and data administration for IT**

- Enterprise user authentication and information authorization is persisted across all SAS Visual Analytics components to support data governance and IT policy implementation.
- Data is provisioned to in-memory servers based on volume, frequency of required updates and scalability requirements.
- A single Web-based interface is provided for managing SAS enterprise information assets, including users, servers and data.

**Visual data exploration**

- Web-based, interactive data exploration mode for any type of user.
- Autocharting. Based on data items selected for analysis, SAS Visual Analytics automatically chooses the chart best suited to display the type of data selected: one measure yields a frequency chart, two measures yield a scatter plot, three measures yield a bubble chart, etc.
- Geographical map views provide a quick understanding of geospatial data.
- “What does it mean” capabilities automatically identify and explain the relationships between variables.
- Exploration capabilities are provided for in-memory server data sources.
- Graphical skins can be applied for 3-D appearance and light effects on visuals.
- Compelling visuals include box plots, heat maps, bubble charts and more.
- The toggle feature displays grid lines and lets you adjust axes to optimize viewing. Change queries by selecting items to be displayed from a sidebar or dynamically filtering and grouping.
- A resizable overview bar lets you visually subset a portion of data sets with many records (high cardinality).
- Viewable descriptive statistics, such as min, max and mean, enable you to gain an overall sense of a particular measure.

**Self-service approachable analytics**

- Explore and seek correlations on data sets using in-memory server sources for big data analysis.
- Slice and dice multidimensional data by applying filters on any level of a hierarchy.
- Drill up and down through hierarchies, or expand and collapse entire levels.
- Calculate new measures and add them to any view.
- Save views as report packages to share with other advanced data exploration users in Web reports, images or SAS mobile apps.
- Remove complexity of data structures from nontechnical users.

**Web-based report building and distribution**

- Web-based, interactive report-building interface for report authors.
- Data acquisition wizard for previewing, filtering or sampling data prior to creating visualizations or reports.
- On-the-fly hierarchy creation for adding drill-down capabilities to visualizations and reports.
- Ability to select predefined filters, set groupings and sorting, and override default formatting.
- A variety of charts are included: bar/3-D bar with multiple lines, pie/3-D pie, line, scatter, heat map, bubble, and tile – all with the ability to add annotated reference lines to graphs.

Continued on next page
corporate design standards and then publish the reports to a Web-based viewer or iPad.

**Report viewing**

Large numbers of users can quickly open, view and interact with reports from the Web, via an Adobe PDF file or from an iPad. (Later releases will extend this feature to other mobile devices.) Advanced analysts can view large volumes of data quickly from multiple angles and interact with the data in many ways. Users can examine comprehensively all factors under review.

**Centralized user hub**

The SAS Visual Analytics Hub is the home page and launching pad for all SAS Visual Analytics applications. It provides a central logon facility so users can view and open recent content, add their favorites and use Google-like search capabilities to search for content to which they have authorization.

---

**SAS® Visual Analytics System Requirements**

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

---

## Key Features (continued)

### Report viewing

- A Web-based, interactive report viewing interface is provided for information consumers.
- Interactive report viewing is provided for information consumers using iPad devices.
- Ability to view reports as they will display on targeted mobile devices before publishing.
- Rich desktop-like experience with drag-and-drop functionality enables resizing of objects on the screen.
- Ability to print reports to PDF or PNG.

### Mobile intelligence

- Native iPad support leverages the most popular gestures and capabilities, including zoom, swipe, etc., to optimize ease of use and user engagement.
- Flexible layouts let you create content tailored to different business needs.
- Link indicators enable data brushing as defined while creating reports. A selection in one indicator is applied as a filter or selection in the related indicator(s).
- Access big data from the SAS LASR Analytic Server.
- Reports can be viewed on mobile device while offline.

### Centralized user hub

- View thumbnails of recent and favorite items and select to open.
- Open items directly from the SAS Visual Analytics Hub seamlessly, whether they are reports, visualizations or data sources for exploration.
- View descriptive statistics, such as min, max and mean, to gain an overall sense of a particular measure.

---

SAS Visual Analytics provides connection to an Apple iPad app that lets users select, download, view and explore reports. iPad reports are delivered through the SAS Mobile BI app, which is a free iOS app available on Apple iTunes.