



# What's new in Tableau 7.0

January 2012

Tableau 7.0 is the evolution of business intelligence. Whether you're a business user who needs to get more from data faster, an IT professional seeking a self-service BI environment, or an executive who simply wants to get answers, Tableau 7.0 has something for everyone.

Tableau 7.0 includes deep capabilities in:

- **New Ways of Seeing.** Get new perspectives on data; shift perspectives with a click.
- **Analytical Firepower.** Answer sophisticated questions easily.
- **Shared Data.** Manage data across an organization while staying flexible.
- **Enterprise Class.** Tools to make IT happy.

This paper provides an overview of some of these key features in Tableau 7.0.

## New ways of seeing

Visual analytics is at the core of the Tableau experience. Business users must be able to see the data in meaningful ways in order to understand it. With traditional BI, business users have been challenged to easily visualize data and spot trends that answer their own questions.

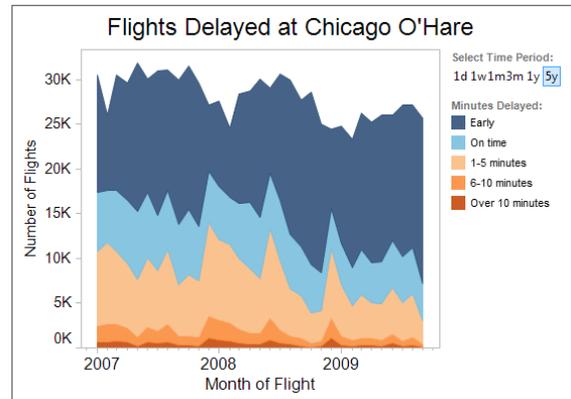
To remove this barrier, Tableau 7.0 has expanded its visualization capabilities, added several new chart types, redesigned dozens of features, and improved data analysis tools such as stats, date manipulation, and domain completion. With these updates the product is more intuitive and interactive.

Tableau 7.0 delivers even more comprehensive analytics and visualizations that enable users to ask and answer their own questions.

### Area charts

Imagine looking at a line chart showing the change over time among several categories (industry, state, etc). A line chart is excellent for showing the growth and decline of the individual items, but does not show the change of the group as a whole.

Area charts allow viewers to visually compare segments and gain a holistic view of the data.



**Figure 1. Area charts show trends within groups and overall**

*This area chart shows the number of flights for each delay group, and together all the groups show the overall trend in air traffic. The chart allows viewers to visually spot trends that may not be easy to identify alone.*

### Filled maps

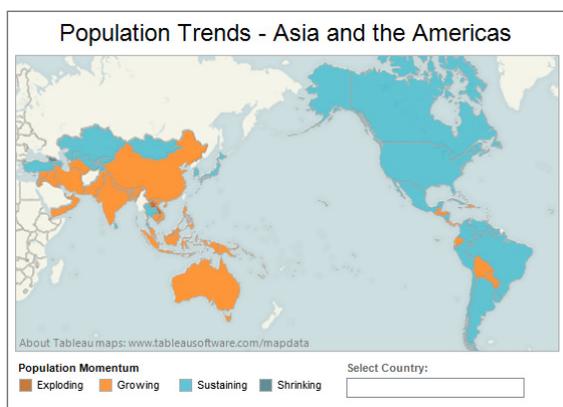
Tableau maps have been redesigned and now allow users to plot data as sized marks (dots) or filled geographic shapes. Tableau provides geographic data down to the zip code level, giving users any easy way to visualize data.



**Figure 2. Filled maps make geographic data pop**  
*Each county is colored by its growth rate from 2005 to 2011. Blue counties have lost jobs, orange counties have gained jobs. Viewers can see at the zip-code level trends that they might not see in numbers alone.*

## Wrapped maps

Tableau maps wrap around the globe, so a viewer can pan continuously to the East or West. This makes it easier to display world data. In addition, Tableau chooses a map center based on the data, instead of choosing the Americas by default.



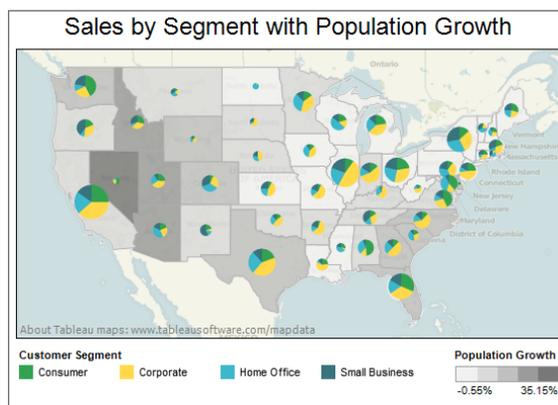
**Figure 3. World maps focus on relevant regions**

*Population growth in Asia and the Americas is shown. The map wraps so that there are no “edges” to the world, which allows viewers to see global trends and explore easily.*

## Combine mark types on maps

Tableau allows users to combine mark types on a map or any visualization. This enables viewers to visually compare data and reveal patterns that would otherwise be much harder to see.

For example, filled maps can be combined with circles and pies. Layering data in this visual and easy-to-read way makes analysis accessible to viewers.



**Figure 4. Compare data using maps and pies**

*Two levels of data are shown: the first (population growth) is mapped on states as a filled map, and the second (sales by category) is a pie chart. With this graph viewers can easily see which products are growing in conjunction with population growth, and vice versa. This would be a trend hard to identify using numbers alone.*

## Show Me

When working with data it can be hard to find the best visualization to tell a story.

The “Show Me” feature is unique to Tableau and helps users choose the most appropriate visualizations for the data. By seeing data in different perspectives, users can quickly see things that might have been otherwise overlooked.



**Figure 5. “Show Me” uses visual best practices**

*“Show Me” highlights for a user which visualizations are appropriate for their data set.*

A redesigned “Show Me” experience makes it easier to explore and provides guidance on what kind of data is needed to add to create a specific view. It has also been integrated into the workspace as a floating palette for easy access.

## Analytical firepower

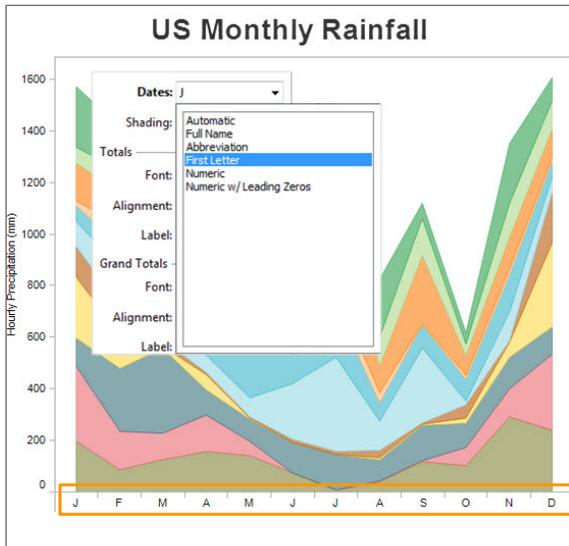
Business users need intuitive and powerful analytical tools to answer the hard questions.

Tableau 7.0 brings with it enhanced parameters, statistical features, and mobile capabilities that will significantly expand viewers’ ability to see and understand data. In addition to these brand new capabilities, Tableau 7.0 also makes many analytical tasks, such as manipulating dates and excluding data, easier with enhanced usability.

### Improved date manipulations

Working with dates is one of the most common tasks that users do when looking at data. The ability to work with dates easily can save time and improves visual representation for viewers.

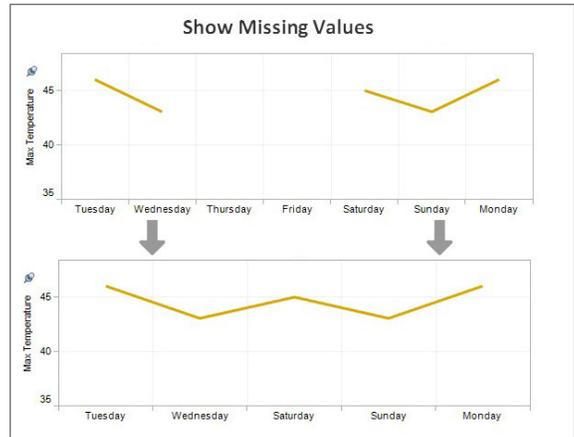
In Tableau 7.0, the date context menu is now easier to use allowing you to quickly select the right date level.



**Figure 6. Date manipulation is one click away**  
*Monthly rainfall data is shown over a year. Users select the date format that is easiest to understand for viewers.*

### Domain completion

Sometimes the data that is not present can be as valuable to see as the data that is present. When there is a missing point in the data, Tableau will automatically generate missing dates or numeric bins when “Show Missing Values” is checked.



**Figure 7. Automatically include missing values to complete a chart**

*When missing values are included in a visualization viewers can dig into the data to understand what data is missing and why.*

### Parameters

Parameters are user-defined values that can be used to extend data sets and evaluate scenarios; they can also be defined and managed centrally in a Tableau data extract.

With Tableau 7.0, parameters in multiple places simplify the authoring experience and dramatically save time.

The parameter functions include:

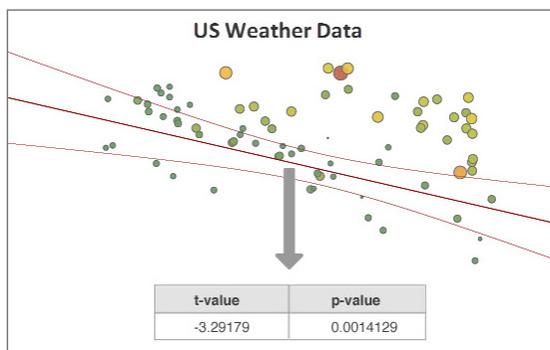
- Top N and conditional filtering by parameter
- Dimension filtering by parameter
- Dynamic bins by parameter
- Dynamic date binning and truncation by parameter
- Simpler reference lines by parameter
- Dynamic reference bands by parameter

## Statistics

Statistics are a data analyst's best friend. Tableau 7.0 provides enhanced statistical capabilities to enrich user analytics and make visualizations dynamic and powerful.

### Statistics: Enhanced trend model

Information now available in the trend model description includes t-value and p-value for each co-efficient estimate. In addition, the trend model window has been updated so it is easier to read and interpret.

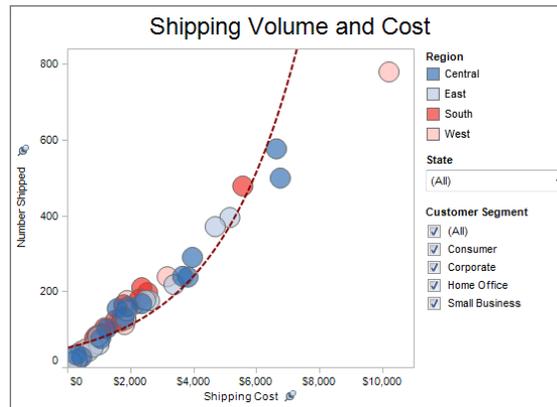


**Figure 8. Trend modeling is easy with t- and p-values**

Information for a year's worth of weather data for thirty cities with a trend line is being shown. The trend model with t-value and p-value for each co-efficient estimate is included for ease of use and analysis.

### Statistics: Exponential trend line

Exponential models are common in statistics and are particularly useful in determining whether a unit increase in an independent variable produces an exponential change in a dependent variable. Users can quickly and easily create exponential trend lines with Tableau 7.0.

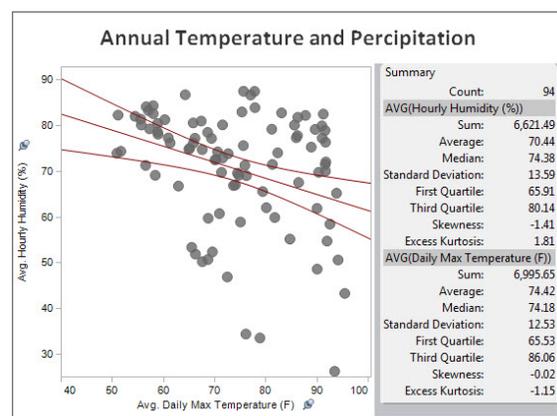


**Figure 9. Quickly identify exponential relationships**

This visualization is showing the relationship between shipping volume and cost. The viewer has switched the trend line to the new exponential trend model to look at the exponential relationship.

### Statistics: Enhanced summary window

A data summary helps users get to findings quickly and communicate basic facts about the data.

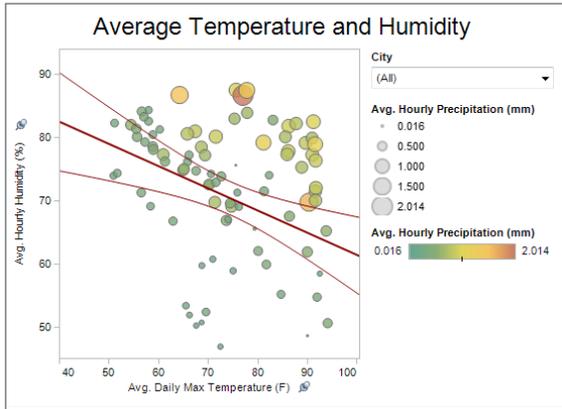


**Figure 10. Summary stats make it easy to evaluate data accuracy**

The data summary card displays key points. Viewers may want to view new measures like skewness and kurtosis to help to understand the shape and distribution of the data sample.

### Statistics: Confidence bands

Confidence bands represent the uncertainty in a trend line. They help users communicate the accuracy of trend estimates in a graphical way.

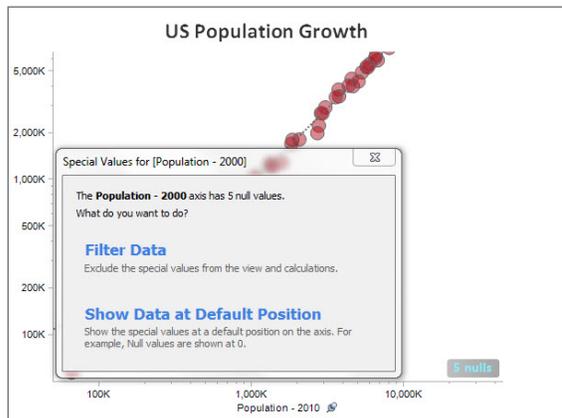


**Figure 11. Confidence bands show trend line accuracy**

Temperature and humidity across cities worldwide are shown with 95% confidence bands. The viewer can easily see how accurate the trend lines are in a visual way.

### Null values

Null data can cause visualizations to inappropriately represent the data. Tableau provides a number of ways to handle null values in visualizations. With Tableau 7.0, new warnings and choices are available to help choose the appropriate action for null values – show, hide, or exclude. Null values differ from domain completion because they are included in the data but represent incomplete values.

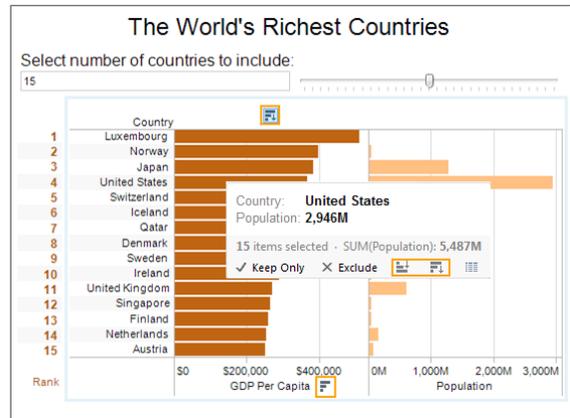


**Figure 12. Quickly identify and manage null values**

This data contains five null values which are indicated at the bottom right. Selecting the indicator provides options to handle these.

### One-click sort

Sorting is one of the most useful operations when analyzing data. In Tableau 7.0 sorting has been improved to use computed sorts rather than manual sorts and can now be performed directly by clicking on the new sort icons which appear in the visualizations.

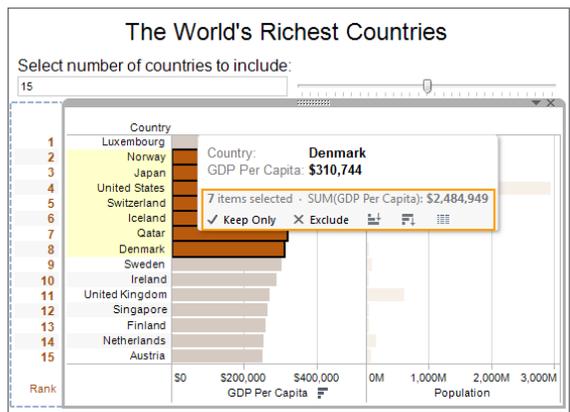


**Figure 13. Sort data in multiple places throughout the interface**

This view can be sorted from the header at the top of the visualization, the axis at the foot, as well as the tooltip. Allowing viewers to sort in multiple places increases ease of use.

### Tooltip improvements

Tooltips help explain data in visualizations. Now they also allow viewers to manipulate the visualization by performing the most commonly used operations such as sorting, exclusions, etc.



**Figure 14. Intuitive access to common functions in the tooltip**

This user has selected several marks and Tableau is displaying summary information in the tooltip. The tooltip enables the user to keep only, exclude, view data, and saves time for common functions.

## Shared data

Tableau Server makes your data easier to access, improves performance, and makes it easier for IT to manage and secure large data sets.

In Version 7.0 of Tableau Server we have included the groundbreaking new data server. This multi-faceted feature allows anyone to publish an extract or database connection to Tableau Server.

### Data connection management

When working with data, IT has many challenges to deal with including centralized data management, server storage, connectivity, and data updates.

The data server provides a centralized location to manage all of an organization's published data sources. You can delete, change permissions, add tags, and manage schedules in one convenient location. It is easy to schedule extract refreshes and manage them in Tableau Server. Administrators can centrally define a schedule for extracts on the server for both incremental and full refreshes to save time and effort.

The data server ensures that all of the organizations' workbooks are working on consistent data and only one copy of the data is stored on Tableau Server, reducing overhead for storage, management, and data updates.



**Figure 15. Easily schedule data extracts with Tableau Server**

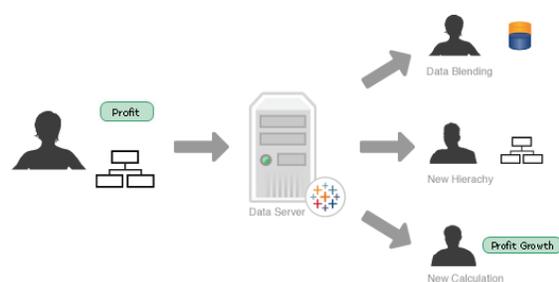
*Any authorized user can specify extract refresh schedules directly from the data server enabling self-service. This flexibility supports self-service analytics throughout the organization.*

### Flexibility for end users

Business users need easy access to data that will enable them to make better decisions. Self-service BI such as Tableau is a great way to satisfy that need.

The data server provides organizations with a centralized data source and metadata layer – yet still enables users to modify and extend it to meet their specific business needs. Users can add their own calculations; create new groups, sets, and parameters; organize data into hierarchies; and modify aliases. When the underlying data source changes, Tableau adapts to the changes in every existing workbook so that users can continue analyzing without disruption.

A self-service environment dramatically reduces IT costs and facilitates smarter and faster decisions.

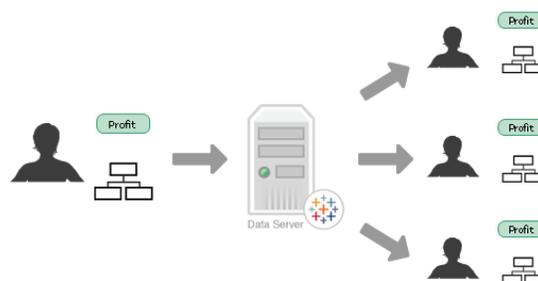


**Figure Figure 16. Users decide how to work with data without affecting the data source**

*Users connect to a common data source and make their own modifications. The original data source, however, remains the same.*

### Shared metadata

Metadata models are a powerful way to manage definitions of data across an organization, but they tend to fail because they prevent users from extending their data locally as needed to investigate new problems.



**Figure 17. Metadata ensures consistency for multiple users**

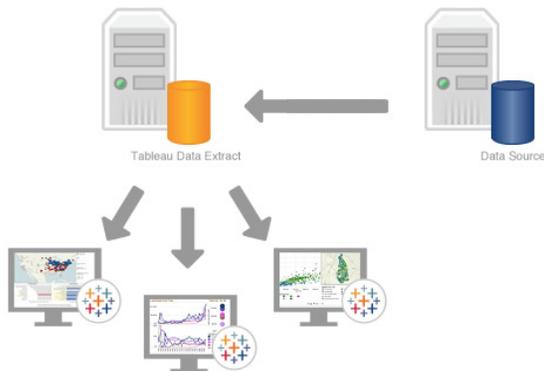
*When you're collaborating with colleagues, shared metadata gives you a common language and simplifies communication. In this example, the data owner has created metadata "profit," which each of the users can then access and use.*

The data server allows administrators to centrally manage metadata including data types, names, definitions, and calculated fields, while allowing users to extend their data model. Changes to a master data source can be automatically propagated to workbooks that use the data source. At any stage of creating a data source, the metadata can be published to Tableau Server and users still have the ability to ask and answer questions without being handcuffed by an inflexible data model.

### Centralized extracts

Tableau Server now provides centralized management of data extracts and database pass-through connections. Data extracts can be managed centrally within Tableau Server and shared across workbooks.

Tableau Desktop users can connect to these centralized data extracts in the same way that they connect to any other data source. Queries are executed on the server rather than on the desktop. Users can enrich the data model locally, providing centralized management of the data and user flexibility.



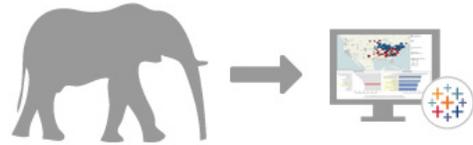
**Figure 18. Extracts enable IT to manage data more effectively**

*Users can now connect to a published extract just like they connect to databases. This means only one copy of the data is stored on Tableau Server, reducing overhead for storage, management, and data updates.*

### New data source: Hadoop Hive

Hadoop helps solve big data challenges through a fast, scalable approach for both structured and unstructured data. Hive provides a query infrastructure built on top of Hadoop to support querying and analysis of large data. Tableau has partnered with Cloudera to provide connectivity to Hadoop via Hive, so you can easily explore and visualize data in a Hadoop cluster.

Connecting to Hadoop with Tableau is just like connecting to any other data source. Just select a Hadoop connection and start exploring your data.



**Figure 19. Tableau connects to big data clusters such as Hadoop**

*Hadoop is developing as a leading technology for data that is huge, unstructured, and messy.*

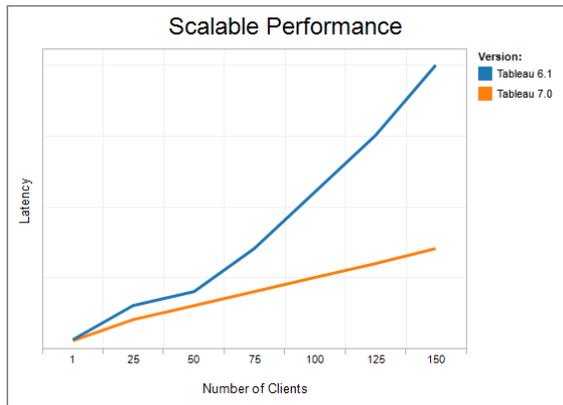
## Enterprise class

Business intelligence platforms must deliver business user benefits such as ease of use, analytical insight, mobility, and a social and collaborative experience; they must also help the information technology team manage their Tableau deployment.

### Scalable performance

Tableau Server has a number of architectural changes to increase performance and the number of users it can support. Furthermore, optimizations have been made for large server views and for quick filters resulting in better overall performance by reducing the amount of traffic across the network.

These changes will be transparent to most organizations and will result in increased scale and predictable performance.



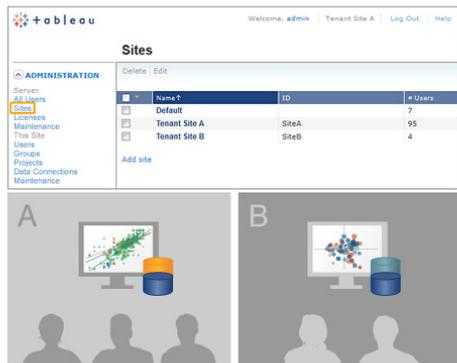
**Figure 20. Scalable performance with Tableau Server**

*Large Tableau Server deployments will run faster on Tableau 7.0.*

## Multi-tenancy

Administrators can now configure Tableau Server to be multi-tenant. Multi-tenancy allows administrators to increase the number of users supported by sharing computing resources and provide robust security by keeping tenants completely separate and private.

These are useful features if you are serving reports to different tenants (Marketing, Sales, Finance, etc.) via Tableau Server and do not want them to be able to see the other's workbooks, data, users, or projects.



**Figure 21. Multi-tenancy is a new feature in Tableau Server**

*The site administrator is viewing the new “Sites” section of Tableau Server where Tenant Site A and Tenant Site B have been set up. Within each tenant, users and administrators can see only the content that belongs to them.*

## Localized server

Tableau Server is now translated into French and German (Tableau Desktop was translated with Tableau 6.1).

Localization gives users the ability to browse and search for workbooks in their local language making it easier to get the information needed. In addition, it helps administrators manage users and settings in their local language.



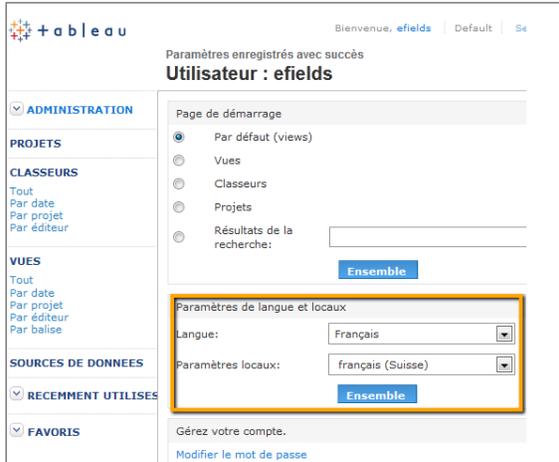
**Figure 22. Localization enables global deployments of Tableau**

*A business user is examining recent views in Tableau Server. Since the language is set to French, the web interface is translated into French for a seamless experience.*

## Set language & locale

Tableau Server allows users to set their localization and locale preferences. If not explicitly stated, Tableau Server will try to detect preferences based on the browser preference.

When communicating with data it's important to remove any roadblocks to understanding data and visualizations. Showing date, time, and numeric data in the local standard and preferred language helps the user focus on the story.



**Figure 23. Individuals set language preferences**

*Users select their language preferences on the settings page in Tableau Server. Since localization is set to Français, the web interface is translated into French. Because locale is set to Français (Suisse), numbers and dates will use standard formatting used in Switzerland, such as commas instead of periods for decimals.*

## Mobile

Everyone is on the go these days. The ability to get insights and take immediate action while in the field is critical to the success of an organization's BI platform.



**Figure 24. Easily view visualizations on the go**

*Tableau 7.0 advances mobile features with better usability, tooltips, and support for commonly used features.*

Tableau 6.1 introduced new, touch-optimized capabilities for users consuming visualizations on their iPad. Tableau 7.0 builds on those capabilities with enhanced performance for loading your visualizations, deeper interaction through selections and pan/zoom, and improved quick filter performance and interactivity.

The tooltip has been improved to provide commonly used functions such as sort, export data, and exclude. Finally, users are also able to drill down in a view and turn on highlighting.

## Add Tableau to your organizational toolkit

Tableau 7.0 offers capabilities that extend your analytical toolkit, give you new ways to visualize data, enable enterprise wide deployments, and allow sharing of data and insights quickly and intuitively. See for yourself what Tableau can bring to you. [Download the full-featured trial](#), grab one of your favorite data sets (or use the sample provided), and start discovering.

## About Tableau

Tableau Software helps people see and understand data. Ranked by Gartner in 2011 as the world's fastest growing business intelligence company, Tableau helps anyone quickly and easily analyze, visualize and share information. More than 7,000 companies get rapid results with Tableau in the office and on-the-go. And tens of thousands of people use Tableau Public to share data in their blogs and websites. See how Tableau can help you by downloading the free trial at [www.tableausoftware.com/trial](http://www.tableausoftware.com/trial).