Governed Self-Service at Scale
IT Powered Business Analytics

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Seattle Children’s Hospital Embraces Self-Service

For the staff at Children’s, speed is a matter of life and death. The faster a doctor or nurse can help a child, the better the outcome. Mere minutes can make a critical difference.

That’s where real-time data comes in. With self-service analytics, the hospital staff can ask critical questions on the spot and streamline efforts to maximize productivity. They can get to their patients faster and save as many lives as possible.

“We’re seeing analysts and managers as well as clinicians, doctors, and researchers using Tableau to solve problems in ways we couldn’t do before, largely because we didn’t have enough time or enough people.”

- Ted Corbett, Director of Knowledge Management, Seattle Children’s

That is the power of self-service analytics. It empowers organizations to fully leverage their data, be it for saving lives, driving supply-chain efficiency, or spotting new opportunities. The IT team at Seattle Children’s recognized the need to convert data into information, and enabled its users to become self-reliant.

The goals of self-service analytics are simple:

1. Empower people to ask and answer their own questions of the data.
2. Enable people to easily share their insights with their team and the rest of the organization.
3. Ensure that the data driving the decisions is accurate.

“Users on their own have an idea of how they want to look at data, and can turn it around very, very quickly. Speed to development is significantly faster than in the old paradigm of putting change requests in for specialists to code the reporting requirements.”

- Kevin Sonsky, Senior Director of Business Operations, Citrix
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Introduction

Here at Tableau, we believe in going beyond discovering insights to driving meaningful change across the entire organization. To achieve this, people across teams must work together, communicating their insights and leveraging each other’s work. And you, IT, are the central actor that makes all of this possible.

Today’s organizations seek an approach to self-service analytics that balances the needs of both IT and the business. People in your organization are already using Excel and other tools to answer their questions. So how do you take charge and enable self-service analytics while also making sure the data is governed, trusted, and secure?

There are four key steps to successfully deploying self-service analytics:

1. Set up your environment rapidly: It’s easy for one person to pick up Tableau Desktop and start exploring the data in just minutes. The challenge here is to quickly enable everyone in your organization to be self-reliant through content management, permissions, and delegated administration.

2. Empower your users to be self-reliant: Give users the tools and capabilities they need to be self-reliant. IT lays the groundwork so users can easily access existing dashboards and available data sources, and conduct their own analysis.

3. Centralize your data models: Provide users with trustworthy data so they can be confident that they are using the latest, most accurate data. Consolidate data connections into saved data sources that are fast, reliable, and easy to find. This reduces duplication and gives all users a centralized environment of truth on which to base their analysis.

4. Monitor and audit usage: Track analytics usage to make sure your data stays secure and your systems are performing well. Understanding which dashboards and data sources are used most frequently is a great starting point for making improvements and growing adoption.

With these steps, IT can transition from a report-factory role to a more strategic role of governance and making data available. To begin the process, IT should partner with the business to identify key stakeholders with questions of the data. IT can then learn their needs and enable them to see and understand their data.
1. Set Up Your Environment Rapidly

It’s easy for one person to pick up Tableau Desktop and start exploring data in just minutes. The challenge here is to quickly enable everyone in your organization to be self-reliant without having to spend several months setting up your environment before your users can derive value.

Tableau is extremely flexible and powerful, able to handle tens of thousands of users, yet its server administration requirements are relatively minimal. In fact, after the initial setup, most organizations find they spend very little time on Tableau Server administration. And as your organization matures, you can easily add capacity and controls as needed.

“In a few weeks, we are able to deliver something quickly that is sharper and more engaging than anything we’ve been able to do in the past. And really what we have, then, is a rolling thunder in the organization of, ‘I want some of that, please.’ So we’ve rolled out that way and we’ve just seen it organically grow in the organization as people want more and more.

“Because the deployment model is flexible, because the license costs aren’t prohibitive, and because we can grow it organically, we don’t have that big bit of decision point. And then we can scale this thing out in a very, very easy way.”

—SIMON GATENBY, VP OF SEGMENTATION & TARGETING, VISA EUROPE

Install, Configure, and Upgrade

Tableau Server can be custom-configured based on your data infrastructure, user load and usage profile, device strategy, and goals. And yet Tableau is also fast and easy to install, configure, and update. You don’t need to spend several months planning and upgrading Tableau with each new release. Tableau enables live backups which can be restored easily, allowing you to be up and running in minutes.

You can install Tableau Server on-premise on physical or virtual hardware, or even in the cloud on AWS or MS Azure.

And if you don’t want to install on-premise, you can use Tableau Online, a hosted version of Tableau server. With Tableau Online, you don’t have to worry at all about the install. And you can scale without extensive advanced planning.
Manage Content

Tableau’s user interface streamlines content viewing and management. You can see key information about content including related items and available actions all in one place.

Tableau Server gives you the flexibility to structure your environment and manage your content in a variety of different ways, depending on the content, your users, and your security and governance needs. You can organize content by site if you need multi-tenancy for extra security.

If you are looking to organize your content by folders, that’s where projects come in.

Projects are a basic container for your workbooks and data sources. They group together items, and behave much like folders. Permissions can be handled at the project level, and users can have access to multiple projects.

Projects are typically used as a way to split content into functional areas, with varying levels of permission. You may have Tableau users in various teams (like Finance, Marketing, Sales, and IT), and wish to serve different content to each team even though all content is based on the same data source(s).

IT can use different projects—for instance, sandbox and production—as a way to manage content. IT can create projects for teams to use as their self-service sandbox. This is where users can freely explore and perform ad hoc analysis. In addition, IT can manage and publish production data sources and dashboards in a separate project, retaining more control over publishing in this space. IT can create the production folders, and business units can manage their own vetted content. That way, the entire organization can trust the data and use it with confidence. The vetting process can be as simple as identifying a small set of users within the team to take a look and sign off on content going into the production folders. What’s more, is that it is so easy to move content from a sandbox project to the production area. So as the business iterates on trusted data, and learns new things, these learnings can be blessed by IT and mainstreamed into the production environment. This ensures that the primary data sources and dashboards that the company can rely on are constantly improving and evolving as the business changes and grows.
For example, here at Tableau, we organize our content for the various teams in different projects. You can see that the Customer Solutions team has access to three different projects. One is the team’s sandbox for works in progress. This is where people can ask and answer their own questions. Then there’s the folder with the vetted and published dashboards which is maintained separately. And Development also has its own project.
Manage Users and Permissions

It’s easy to integrate Tableau with the authentication and authorization standards that you already have in place. Tableau supports Kerberos, SAML, SSL, Active Directory, client certificates, and SSO for SAP HANA to secure user access to your content.

You can also manage permissions at the project level for groups of items (workbooks, data sources) or at the individual content level. Tableau’s intuitive interface makes it easy to see who has access to which content, and to manage permissions for users and groups. You can create groups locally on the server or import from Active Directory and keep them in sync on a set schedule. The permissions view also helps business users to manage their own users and groups.
Decentralize Administration

Tableau Server is so easy to manage that we often see IT delegate the role of site administrator to select business users, especially when it comes to content management and permissions.

In large enterprise deployments, it becomes necessary to decentralize user- and content administration. This prevents IT from unwittingly slowing self-service content generation and new-user onboarding.

Tableau administrators can be assigned different scopes with varying capabilities.

Having physical access to the server hardware and server admin credentials means complete access to all Tableau Server administration. Site-admin access allows control of content and users within a site, and a project leader (an available permission level in Tableau) can supplement the administrators by handling content and permissions within specific projects.

For server administrators, we encourage offloading some of the admin responsibilities to site admins and business users. Both system- and site administrators with the correct permissions can add users. You can set this up via the UI, API or command line (tabcmd).

You don’t have to manage permissions to all content on the server; business users and domain experts can manage content and permissions for their own groups. For example, the analyst aligned to the marketing department can be the project leader for marketing projects.

Automate Using APIs

You can automate business processes using Tableau’s REST API or the Tableau Server command line tool (tabcmd). For example, you can build a script to login, automatically onboard new users, generate PDFs of your views, and more. You can also automate setting up new environments by creating a site and individual projects, assigning permissions, and publishing starter content for users.

The Tableau Server REST API and tabcmd, along with JavaScript and data extract APIs, offer simple and flexible ways to enhance Tableau Server capabilities.
2. Empower Users to be Self-Reliant

What do new users need to quickly come up to speed in your environment? They need a place to find answers to questions and to share insights.

Tableau gives the people who know the data the ability to ask and answer their own questions. It empowers people to perform complex analysis in just a few clicks. When users sign in, they see all the dashboards and data they have access to. Digging in is as easy as browsing, searching, opening, and exploring.

There are many BI tools that give people access to already-built dashboards. Tableau is unique in enabling deeper explorative analysis, letting people ask new questions even they themselves didn’t anticipate. The dashboard is often just the beginning of that discovery process, not the end.

In this landscape, the IT’s role changes from building reports to enabling people to connect to data, explore for themselves, and find insights they can then share.

Find Insights and Discover Content from any Device

In order to enable data-driven decision-making across the organization, users need easy access to content at all times, even on the go.

Users can access content directly from Tableau Server and Tableau Online via a mobile browser using an iPad, an iPhone, or an Android device. And Tableau’s native mobile apps, available on iOS and on Android devices, provide live interactions as well as offline snapshots of the data.

Tableau has several features to help users stay on top of relevant content. These include global search, tags, favorite views, and subscriptions. With visual search, users can preview a snapshot of the content before clicking in.
With mobile analytics, users always have access to key insights and metrics at their fingertips.

And with the subscription feature, execs can easily track weekly reports across the organization. And you, the admin, have the highest level of control over the schedules. You can create new schedules or delete existing ones. You also control whether workbook authors are allowed to schedule their own subscriptions, and whether the server is even configured to send subscriptions.

All of the ways people interact with content—tracked through the number of views, favorites, and subscriptions—provide valuable insights into the popularity and quality of the content. Tableau leverages this data to improve search relevance and to help users discover new and rising content. IT can leverage this data to see trending topics surfacing across the business, and to identify key areas of focus or exploration for the business.
Securely Share Insights
Once users have explored their data, they can easily share their insights with others. Users can subscribe themselves and others to important content, everyone is up to date on key business metrics.
Users can share the original view or dashboard, or their custom-filtered and -selected view of the visualization.

You can rest easy knowing that the security in Tableau Server and Tableau Online will protect against unauthorized access. Users without permission to certain content will not even know that it exists. For example, HR data can be hidden from all non-HR business units. Permissions can be applied to workbooks, data sources, projects, and sites using predefined group roles or custom permissions at the time of publishing.
Features like versioning ensures content is backed up and recoverable should someone overwrite a preferred version of a workbook.

Bring Insights to the Users
Once users uncover insights, IT can help share the findings by embedding them in the platforms already use.

Many of our enterprise customers have embedded Tableau visualizations in their existing portals so that business users can access data right in their workflow. These portals include wikis, client-facing sites, SharePoint, and more.

LinkedIn, a Tableau customer, says a simple data strategy helped boost business-services revenue by 85 percent. The company’s BI team developed a portal, named “Merlin,” that has saved its sales team 100,000 hours of work. Learn more about this great Tableau story.

For example, here at Tableau, we embed Tableau dashboards in Salesforce. The views are connected to live data, so our sales team members can get a quick view of their account, right in the flow of their workday.
3. Centralize Your Data Models

While more decentralized control help your business users move faster, it can also lead to chaos. Maintain data integrity and security, without compromising on the self-service that is driving the business. Tableau has the flexibility to establish the right levels of control based on the content or data in question. Some reports can take a connect and-go approach while others are based on a shared or governed data source managed by IT.

You can start out with your users connecting directly to data. This enables your users to jump right into their analysis, without thinking about the metadata or waiting for it to be set-up prior to use. Then, as you learn which data sets are accessed most frequently, you can provide a central, governed, and accurate version of that data source or dashboard, immediately adding value across the business.

Data governance ensures the accuracy of the data driving your users’ decisions. IT can empower the business to be self-reliant by providing a centralized environment of truth for the data that people can rely on. And that’s where the Tableau Data Server comes in.

With the Tableau Data Server, you can:

- Share data models
- Secure how your users access data
- Manage and consolidate extracts
- Tableau also integrates seamlessly with enterprise ETL tools such as Informatica, Alteryx, Trifacta, and many others to help you make the most of your existing analytics investments. Our partners’ tools work with Tableau so people can collect, store, transform, and connect to the data that’s important to them.

Share Data Models

Use Tableau Data Server to leverage and share data models.

Tableau connects to dozens of databases natively and with the Web Data Connector SDK, you can unlock a world of web data that reads data from virtually any site that publishes data in JSON, XML or HTML. Wouldn’t it be cool if you can set up the connection once and enable your users to access and analyze any and all data for your business?

Tableau Data Sources (connections, data models and extracts) can be published to Tableau Server, which can then be used to derive insights. Changes to a master data source are automatically propagated to workbooks built using that data source. Once you have published a data source that contains all the connection information such as tables and joins, business users can connect to it and add their own calculations or even blend in additional data. Tableau enables you to even join across different databases in the same data source – you have your customer data in SQL Server and inventory management in RedShift, no problem, your business users don’t have to know the difference.
Business users who are closest to their data can also be granted permission to publish new data sources with custom field definitions, calculations, parameters, and groups. This means any metadata changes you make to the source (calculated fields, parameters, aliases, or definitions) can be saved and shared with others, allowing for a secure, centrally-managed, and standardized data set. All of this is done right in Tableau, no separate tool needed.

This approach also allows users to prototype the data, then have IT check it for errors before publishing to production sites. Published data sources also give users an accurate starting point for new analyses, promoting sharing and reuse of consolidated data.

Maintain Control of Data Security
In addition to maintaining the data model for a data source, you can set secure access to your data at multiple levels.

- Permissions set up on the database: Tableau respects the security that you have on your database and only provides the data that a user has access to. You can choose to require a user’s credentials when accessing the data or embed credentials directly in the data source.

- Permissions on data sources in Tableau: Similar to content permissions in Tableau, you can also set permissions on your data source. You can allow an entire team to connect to the data source, but limit permissions for editing data source metadata to a few named users responsible for data integrity and administration.

- User filters on workbooks: You can set user filters on workbooks you publish in order to show users only the data they need to see.

- These measures allow the business user to focus on deriving insights from the data instead of having to worry about the underlying database structure, proper field definitions, or data integrity. The maintenance of the data source can either fall to IT, DBAs, or business users.

Manage and Consolidate Extracts
Use the Tableau Data Server to consolidate your extracts and provide data in one place. That way, you can avoid unnecessary processing and storage of large, separate, overlapping files. You can schedule automatic extract for each published extract, and these can run multiple times per day.

Issues with extract refreshes are visible to all users, so they’ll be aware if their dashboards are impacted. The admin views also let you know if automatic extract refreshes fails so you’ll know whether your organization is using the most recent data available. Admins and workbook authors can schedule extract refreshes at the time of publishing a workbook or a data source.
4. Track Usage

Monitoring usage is a critical piece of the self-service model as it allows IT to be proactive and responsive about usage and performance, and to quickly react to failures. You can reach out to workbook authors to help optimize performance and to identify popular resources to promote greater adoption and awareness.

Just as business users leverage data to make smarter decisions, you, too, are empowered to make data-driven decisions on your Tableau deployment based on your admin-data views.

Tableau Server provides a set of curated, interactive admin views. You can drill down, aggregate, and answer your questions to find your own insights.

The server-admin views give you insights into usage of your Tableau Server deployment. You can track usage of key reports. You can identify popular dashboards that may have become mission-critical and now needs to be governed by IT. And you can find content that’s not being widely used and clean up the clutter.

You can detect patterns in your organization’s data consumption, then focus your efforts on maintaining the most widely-used data. If you are trying to resolve an issue for a particular user, you can also filter and see the activity for just that user.
Track Failures
Tableau Server provides visibility into server health issues and background tasks through email alerts and admin views. You can see, at a glance, the status of all currently-running server processes. And you can be notified if any of the server processes are down. When scheduled tasks fail, you can see why they failed so you can take action.

Monitor Performance and Capacity
Keep track of load times and space utilization to ensure the performance of your system meets the requirements of your users. Visibility and historical trends will help you better understand the usage patterns and provision new capacity before it impacts users. You can set up alerts to warn you as space falls below the thresholds you’ve set. Tableau is easy to scale to maintain performance as more users are added.

Customize for Your Needs
Tableau allows direct access to the Tableau Server Repository, which includes information about user activities, data connections, queries, extracts, errors, views, and interactions on Tableau Server. For example if you want to get a better view into performance, you can bring in data from your resource monitoring tool like Perfmon, or Zabbix and collate that information with performance data from Tableau to identify your resource and performance bottlenecks.
Uncover Your Own Insights with Tableau

Why limit yourself to just monitoring Tableau-usage data? Just like any other business unit, you can use Tableau to visually monitor all your systems. Check out how Tableau’s own IT team uses Tableau as part of the daily workflow.
This one tracks network connectivity:

![Network Connectivity Diagram](image)

This view tracks IT helpdesk tickets:

![Helpdesk Ticket Distribution](image)
And this one, our most viewed dashboard within Tableau, shows the list of company holidays by region:

![Marketing Calendar](image)

Parting Thoughts

Enabling self-service analytics requires a true partnership between the business and IT. It also requires the right enterprise platform as a foundation to build on.

Tableau is easy to manage and deploy, is reliable, highly available and scalable. It also provides the governance and security IT requires, without hindering the flexibility and agility of the business.

Tableau is a proven solution with both public-facing and internal deployments in industries with some of the most stringent security requirements, including financial services, government, and healthcare.

But don’t just take our word for it. Try it with your own data. Partner with the business, and empower your organization to explore trusted data in a secure and scalable environment, and help them discover things about your business they’ve never seen before.
About Tableau

Tableau lets people quickly analyze, visualize, and share information—transforming raw data into actionable insights. Create interactive visualizations and dashboards that advance standard reporting, and reveal hidden insights with exploratory analysis. Then securely share your insights—on-premises or in the cloud—with colleagues, partners, suppliers, customers, and more. Whether you’re a single entrepreneur or an IT-powered enterprise, Tableau scales to meet your needs. From small businesses to the world’s largest companies, governments, and universities, organizations everywhere see and understand their data with Tableau.

Additional Resources

Download Free Trial

Further Reading

The Modern Approach to Business Intelligence
Tableau for the Enterprise: An overview for IT
Unleashing the Tableau Data Server
Tableau Server Security Whitepaper
High Availability: Mission critical analytics in the flow
Scalability: Powering self-service analytics at scale
Tableau Drive: A new methodology for the enterprise

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