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E-BOOK

DISCOVER THE POWER OF VISUAL ANALYTICS IN THE CLOUD

EASILY CONNECT, DEPLOY, COLLABORATE, AND SCALE

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THE CLOUD ANALYTICS LANDSCAPE

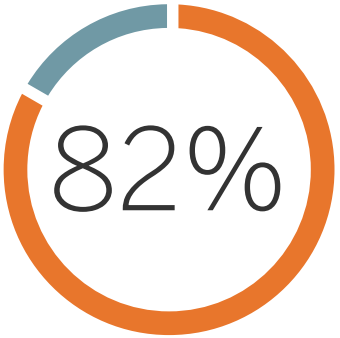
THE CLOUD ANALYTICS LANDSCAPE

Without a doubt, data and analytics are a vital part of a successful, growing company, often providing critical differentiation from the competition. The stakes are high. "The amount of data created over the next three years will be more than the data created over the past 30 years, and the world will create more than three times the data over the next five years than it did in the previous five."[1]

Asked about their strategic areas of investments for the next five years, 80 percent of CEOs identified using data in advanced decision-making models for intelligent operations.[2] And in their latest survey of boards of directors, Gartner points to analytics and artificial intelligence (AI) "to emerge stronger as game-changer technologies as a result of the pandemic."[3]

Is your organization prepared to compete with companies who are able to make nimble business decisions thanks to a cloud-based analytics platform?

In this eBook, learn how Tableau and Amazon Web Services (AWS) offer a powerful, secure, and flexible end-to-end business intelligence (BI) solution in the cloud.



of data-driven businesses consider data a critical advantage during the pandemic.

of data-driven leaders are optimistic about the future health of their businesses.

of non-data-driven businesses are optimistic.

Source: Tableau, Data-driven companies are more resilient and confident.

1. IDC, Global Datasphere, May 2020
2. IDC, Cloud Business Intelligence and Analytics, April 2020
3. Gartner, Gartner Says 69% of Boards of Directors Accelerated Their Digital Business Initiatives Following COVID-19 Disruption, September 30, 2020

SOLUTION OVERVIEW: TABLEAU ON AWS

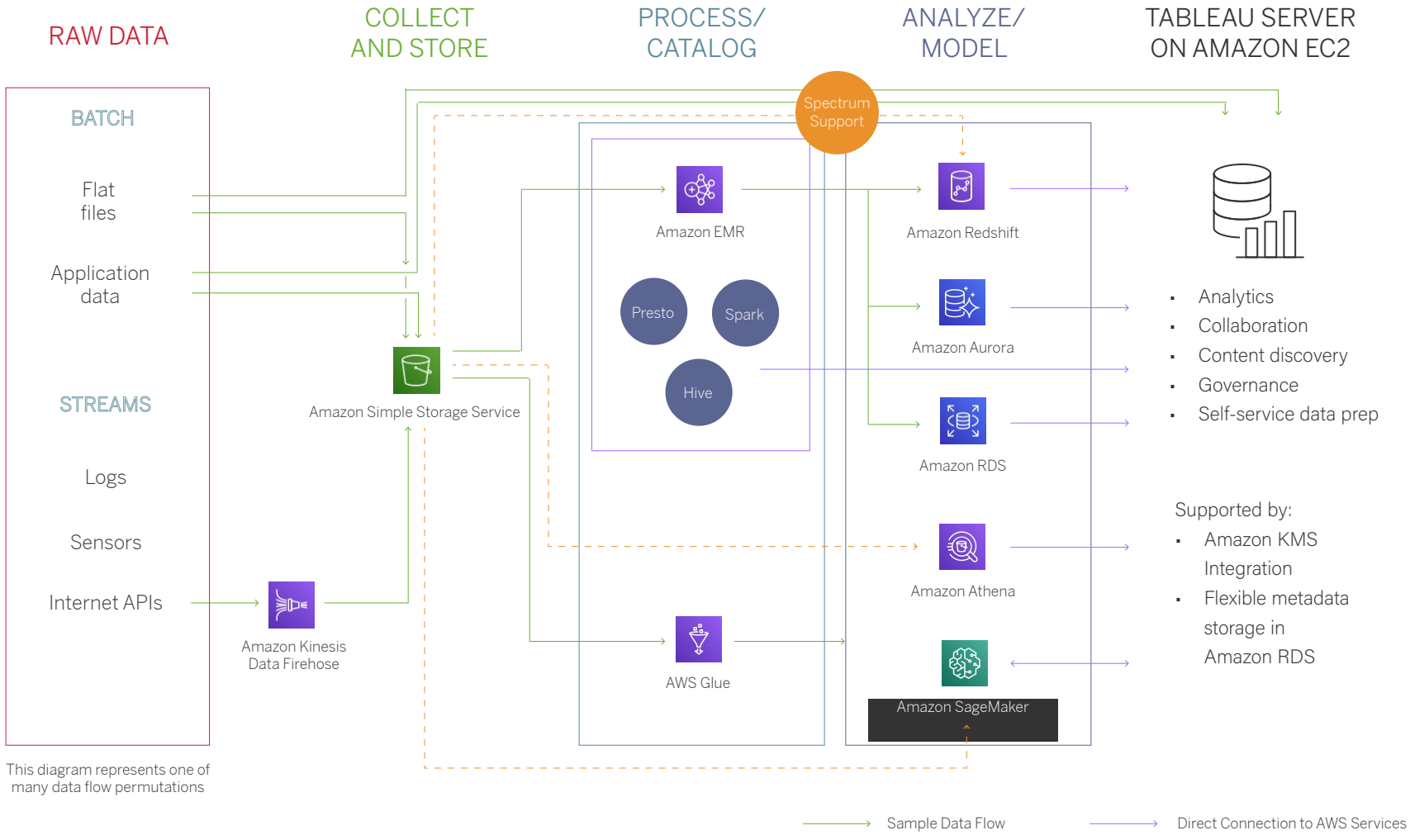
With Tableau on AWS, you gain the transformative data analytics power of Tableau matched with the breadth and depth of AWS services in the cloud. Tableau natively connects to Amazon Redshift, Amazon Relational Database Service (Amazon RDS), Amazon Athena, and Amazon Elastic MapReduce (Amazon EMR).

Additionally, using an easy-to-deploy Quick Start for Amazon SageMaker for Tableau, you can integrate machine learning (ML) models in Tableau's calculated fields. Amazon SageMaker lets you communicate and share ML insights through self-service analytics.

Tableau's powerful analytics platform empowers everyone across your organization with data. With Tableau on AWS, collaborate on a secure, scalable, and reliable self-service analytics platform. You can add users and connections to large, high velocity, and diverse datasets for interactive analysis.

TABLEAU ON AWS

Tableau runs on AWS with direct connections to AWS data sources.



DEPLOYMENT OPTIONS

With Tableau on AWS, you can easily self-deploy Tableau Server on an Amazon Elastic Compute Cloud (Amazon EC2).

The Tableau Server on AWS Quick Start allows you to use AWS CloudFormation templates to deploy Tableau Server. The Tableau self-deploy option provides a fully functional Tableau environment on the AWS Cloud, following best practices from AWS and Tableau Software. In AWS Marketplace, use a Tableau Server (BYOL)—Bring Your Own License to deploy. And Tableau Online provides a fully hosted analytics platform built on AWS.

TABLEAU SERVER	AWS SELF-DEPLOYMENT	AWS QUICK START	AWS MARKETPLACE
PRODUCTION READY	✓	✓	✓
UPGRADABLE	✓	✓	✓
INSTALL ON LINUX	✓	✓	✓
INSTALL ON WINDOWS	✓	✓	✓
SCALE-UP	✓	✓	✓
SCALE-OUT (ADD NODES)	✓	✓	✗
ACTIVE DIRECTORY SUPPORT	✓	✗	✗
14-DAY TRIAL LICENSE	✓	✓	✓
BYOL LICENSE	✓	✓	✓
SUPPORTS LATEST VERSION OF TABLEAU	✓	✓	✓

DATA WAREHOUSE MODERNIZATION

Data warehouses have traditionally resided in on-premises data centers. Their architecture and infrastructure are not designed to support all the new forms of data efficiently or cost-effectively. Their infrastructure is rigid, and the long-running ETL processes they require affect compute and performance. A modern cloud data warehouse running on AWS offers the following features and capabilities that address the flaws inherent in their traditional predecessors:

AGILITY

A modern data warehouse on AWS implements techniques such as columnar storage to reduce I/O operations, data compression, and zone maps to deliver data at scale more efficiently. A massively parallel processing (MPP) architecture parallelizes and distributes SQL operations to take advantage of all available resources. Machine learning delivers high throughput, irrespective of workloads or concurrent usage.

SECURITY

The security of a modern data warehouse on AWS includes SOC1, SOC2, SOC3 and PCI DSS Level 1 eligible compliance and end-to-end data encryption for data in motion and data at rest. Plus, the modern data warehouse also offers protection against accidental or malicious data loss. If new data security threats emerge, you can quickly design and implement new countermeasures.

LOWER COSTS

A modern data warehouse on AWS is a fraction of the cost of their on-premises counterparts. Local attached storage and a high-bandwidth mesh network maximize throughput. With machine learning predictions of incoming query run times assign queries to the optimal queue for the fastest processing. Result caching delivers response times that are under a second for repeat queries. These capabilities eliminate wait-time, resource, and downtime costs.

SCALABILITY

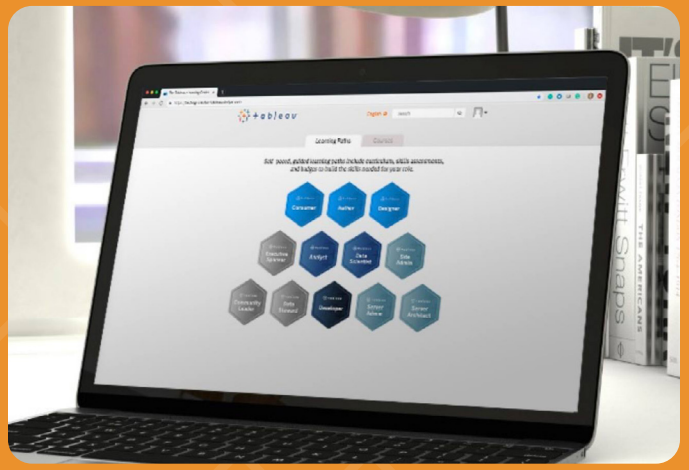
A modern data warehouse on AWS can scale up or down as your needs change. With managed storage, capacity is added automatically to support workloads. The warehouse queries across thousands of parallelized nodes to deliver fast results, regardless of the complexity of the query or the amount of data.

EASY SETUP, MANAGEMENT, AND DEPLOYMENT

Amazon Redshift is easy to set up and manage—and can be deployed in minutes. Amazon Redshift also automatically handles time-consuming and labor-intensive management tasks, so you can focus more on your data and analytics.

GET A POWERFUL, MODERN ANALYTICS TOOLKIT WITH TABLEAU AND AMAZON REDSHIFT

Tableau is an AWS Data and Analytics Competency Partner. Processing the volume and variety of data that today's organizations produce can be challenging and costly, especially with a legacy data warehouse. The combination of Amazon Redshift and Tableau can help you overcome the scalability, cost, and analytics challenges of legacy data warehouses. The result is a scalable and flexible analytics platform on the cloud that enables users to analyze data on AWS and share new insights throughout your organization. Users of all skill levels can analyze datasets, running into the billions of rows, with speed and agility.



Offering robust integration, scalability, and reliability, Tableau empowers you to explore and analyze data without the limitations of pre-defined questions or charts. When Tableau's analytics platform is natively connected to Amazon Redshift, you can use it to analyze, visualize, and share information quickly. This environment empowers all users with self-service analytics, enabling them to connect to, discover, profile, integrate, and visualize data.

How does it work? Disparate data from disparate sources is ingested into Amazon Redshift, which can be queried by Tableau and can also extend queries to a data lake and real-time data sources. Users can run ad hoc queries on massive amounts of data in seconds, rather than hours. They can also visualize operational insights and monitor results to improve internal processes.

The result? Effective and efficient data tiers from raw to curated sources of truth are accessible from a modernized data warehouse that enables all users to traverse data based on their needs.

CUSTOMER STORIES

MABLE MOVES BEYOND SPREADSHEETS TO VISUALIZE DATA

Mable is an Australian company that offers a platform for older people and people with disabilities a way to connect with a diverse community of independent support workers who perform nursing services, social support, help around the home, and other tasks.

Mable relies on data to understand and drive performance, so it created a data science team to analyze everything about the business. The team initially used spreadsheets to measure performance. However, as Mable scaled rapidly, it became clear it needed a more transparent solution to support and coordinate decision making.

Mable turned to Tableau to promote a strong data culture and build the company's entire business model in Tableau, with dashboards that track performance against every target.

The dashboards provide data visualization that is automatically pulled in from sources like Salesforce and Amazon Redshift in an understandable way that was simply impossible with spreadsheets.

Solutions in use:

Amazon Redshift

Tableau

"Our ultimate goal relates to the number of care and support hours delivered and, with Tableau, everyone can see how we are tracking towards that goal and how they contribute," says Scott Savage, Mable's Chief Product and Technology Officer. "They can also better understand the interdependencies between different measures and how that impacts our final target."

And the success of the project isn't limited to the data science team, who lead a program that trains and supports employees that are learning about how they analyze their own data and how to use it to tell a story.

With 60 employees now Tableau data champions, ad-hoc requests to the data science team have been greatly reduced, which has given them the opportunity to do deeper analysis and focus on greater depth of reports. The increase in automation has also reduced the time spent on compliance reporting by an entire week per month.

Next up in Mable's data journey? Combining metrics with keyword analysis from support calls and online service requests.

"Data maturity is not just about the numbers or the immediacy of information, but making sure that you're looking at the right mix of data and that's why we will continue to bring more insights into Tableau," says Savage.

KONICA MINOLTA TELLS THE DATA STORY WITH HEAT MAPS

Konica Minolta's "Go Insight" service analyzes the behavior of buyers and shoppers based on data from sensors and cameras installed in stores. The data collected goes beyond typical point-of-sale (POS) information, analyzing human actions such as time spent in front of shelves, eye movements, and which products are picked up.

Obviously this results in an immense amount of data being collected from the stores, creating several challenges for Konica Minolta. Its developers wrote programs for data and visualization, converting the results into reports. But this was time consuming and required specific staffing requirements. In addition, Konica Minolta wanted a tool that would visualize the product shelf contact as a heat map—something that couldn't be done by programming.

Konica Minolta tapped Tableau to create a mechanism built and operated on AWS in which the camera and sensor data from the stores is aggregated in Amazon S3, processed by AWS Lambda functions, then stored in Amazon Redshift.

The data is analyzed and visualized on Tableau Server running on Amazon EC2 and made available to Konica Minolta's in-house data scientists and consultants.

Solutions in use:

Amazon Redshift
Amazon EC2
Amazon S3
AWS Lambda
Tableau Desktop
Tableau Server

Since programs to analyze data no longer have to be created, reporting tasks have been simplified and the hours devoted to them reduced to 25-33 percent of what they were.

“It was difficult to take over when the person in charge changed, but with Tableau, you can see the contents immediately by looking at the dashboard,” says Yuki Fukuyoshi of Konica Minolta’s Marketing Service Division. “The shorter the time to create a report, the more time you can spend talking with customers. Now, it is possible to analyze deeper than before.”

With easy-to-visualize heat maps, line-of-sight tracing, and Sankey diagrams, Konica Minolta is looking to the future with a recommendation function utilizing machine learning.

KRAFTON SAVES TIME AND MONEY WHILE ADDING SPEED AND ACCURACY

Krafton is a fast-growing global game developer selling millions of PC and console versions of games a year. In just three years, both users and employees have grown greatly as have data and analytics requests. To meet the rising demand, Krafton adopted Tableau to take advantage of its faster analytics process to manage big data and provide useful insights, quickly and with limited staff demands.

Using Tableau, Krafton is able to quickly analyze diverse game data, create over 100 indicators, and share insights across the entire company.

"Krafton tracks traffic and counts users in real-time," says Minsu Jang, general manager for Krafton's data analytics. "Server status is an example of in-game indicators we monitor to detect and fix issues for performance enhancement. We analyze item balance, such as which firearm users prefer, in order to apply this knowledge to development direction."

Using Tableau, Krafton can analyze petabytes of databases on-premises, through Amazon Redshift and MariaDB. Users can analyze this vast amount of raw data from a browser in just a few minutes, saving time and money over the previous process.

Solutions in use:

Amazon Redshift

Tableau

According to Krafton, the first thing 80 percent of business and marketing team members do at work is look at the Tableau dashboard to see up-to-date key performance indicators (KPI) such as sales and profit. Users are able to pinpoint regional differences in KPI and research correlations between their rise and fall. In addition to supporting raw data, Tableau has ad-hoc analytic tools to quickly review patterns.

"Krafton uses Tableau's simple visual analytics, superior scalability, and compatibility with existing data to provide daily analytics to offices around the world," says Siyoon Lee, a data analyst on Krafton's service analytics team. "Everyone can use this data to make decisions suited to each region's and team's needs, and that leads to business growth."

Responding quickly to errors and issues in games is very important to Krafton, who utilize the Tableau dashboard to review a set of indicators that point to the source of the error.

"As a game company, we need to make a lot of quick decisions that are difficult to change later," says Jang. "Tableau's visualization allows the whole company to understand the current situation and to see the direction of improvement. This allows people with different opinions to resolve their differences to reach a decision."

To sum it up, Lee says, "Tableau adds speed and accuracy to Krafton's passion."

BOX GAINS NEW INSIGHTS WITH TABLEAU AND AMAZON REDSHIFT

Box is an online file sharing and cloud content management service that allows users to collaborate on content, automate content-driven business processes, and develop custom applications. Box wanted to understand trends amongst their large customer base to help accelerate growth, create new products, and streamline operations.

With more than 41 million people and 74,000 organizations using Box to store content in the cloud, Box customers emit a lot of data. Box needed a way to gather critical answers about how users were engaging with their products.

Box turned to Tableau and Amazon Redshift to help turn millions of rows of data into actionable insights around product usage and customer demographics. Tableau allowed seamless access to millions of rows of data in Amazon Redshift. Teams at Box leveraged Tableau to understand how customers use the product and their features and ways to make the experience better. This newfound data transparency allows for increased collaboration between teams, offering a central source of truth for company data.

"Tableau can connect to Amazon Redshift really fast. Amazon Redshift has very, very fast query processing time, because it's columnar based so it works very well. I would say Tableau plus Amazon Redshift —it feels like it's one thing. It works really well together."

Abhishek Gupta,
Senior Analyst, Box

Solutions in use:

Amazon Redshift
Tableau Desktop
Tableau Server

WHY TABLEAU ON AWS?

Tableau and AWS recently launched a Modern Cloud Analytics program (MCA) to accelerate customers' cloud analytics journey. The key components of the program are:

- Core product integration, including Tableau Data Connectors, AWS Quick Starts, and Tableau Server management integration.
- Technical resources: Equipping partners with prescriptive guidance, application architecture and operating models to offer a streamlined migration experience for customers.
- Investing in programs to offer customer assessments, migration processes, proof-of-concepts, and deployment/support services to cost-effectively deploy Tableau on AWS.

Learn more about Tableau on AWS and try Tableau for free