

Building a **Cloud Analytics Stack**






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Introduction

An Evolving Cloud Analytics Landscape



“With data-driven goals paramount, BI and analytics tools, applications, and practices—as well as the data management and integration systems that support them—are in the spotlight. This “stack” of layered technologies, cloud-based services, and practices is critical to providing an increasingly varied spectrum of decision makers with a steady stream of trusted, quality data and analytics insights.”

—David Stodder, TDWI Research



The data landscape is quickly changing as companies say goodbye to legacy solutions in favor of a more modern, cloud-based approach to business intelligence (BI) and analytics. A staggering 41% of companies are considering a move to cloud-based analytics in the next year as they look to cut costs, improve efficiency, and enable better decision-making at every level of business.*

This should not come as a surprise. Companies are actively pursuing a cloud strategy because they are tired of the old ways of managing data. The cloud frees up resources and allows data teams to focus on the application of data insights instead of management of on-prem hardware, legacy software, and all the costs that come with it. It's a new era

where any company can rapidly deploy and scale analytics across the organization. Change can happen quickly, enabling the biggest companies to act more like nimble startups, instead of slow-moving enterprises.

With this movement to the cloud, [some trends have emerged along the way](#). Particularly a renewed focus on citizen data scientists, true self-service analytics, data privacy, and security. Despite forward movement in 2018, most organizations have yet to unlock the cloud's full potential. The good news: the cloud data stack is approaching mainstream—according to Gartner—and the latest advancements address the new trends and demands of data-first organizations. These trends largely drive the suggestions laid out in this guide.

The Buyer's Dilemma

For years, companies have poured money into BI and analytics. But adoption never took off. Why? Traditional BI is expensive to maintain, and on-prem is simply too complicated to succeed in the ways companies had hoped. Meanwhile, legacy analytics software has suffered from poor user interfaces and centralized systems that only data teams could access. Open-source projects like Hadoop require significant upkeep, overhead, and consistent management. Combined, these trends haven't made it easy for BI buyers to navigate the ecosystem.

"Pervasive business intelligence remains elusive, with BI and analytics adoption at about 35% of all employees."

Gartner®

Thankfully, this is all changing with the rise of SaaS tools, cloud data warehouses, and new cloud-native BI solutions that simplify self-service analytics for entire organizations. But with many options available in the market to choose from, it can be challenging to discover solutions that deliver ease-of-use, data accessibility, and analytical depth— and determining the right solution for your company can be even harder.

That's why we've put together this buyer's guide.

Read on and learn:

- How to build a complete cloud analytics stack
- How to determine your analytics needs
- How to evaluate leading ETL and data warehouse providers
- What to consider when choosing an analytics tool for your organization



Setting the Goals of Your Cloud Analytics Stack

“Every company needs a clear set of goals and objectives to achieve maximum benefits from its business intelligence strategy.”

— Robert Miller



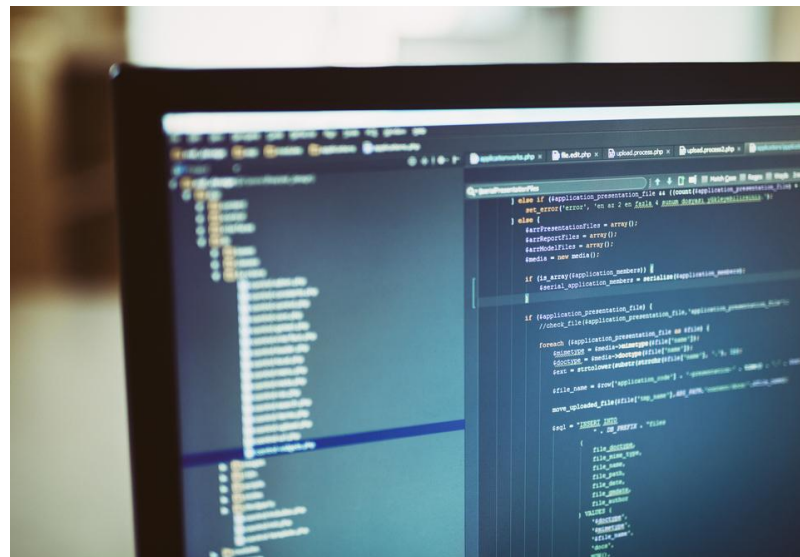
From the get-go it's important to tackle the buying process with some clear goals in mind. By establishing goals and knowing what your company needs, you'll shorten the process and make it easier to cut through the noise in the marketplace. If you're moving to the cloud for the first time your experience will surely be different from someone replacing an existing cloud solution. There is no one-size fits all solution.

Your stack should be practical, scalable, and provide insights to all who need it. This includes the ability to source, store and analyze data—and build reports, dashboards, and provide access to key stakeholders so they can make further discoveries.

To kick things off, we've provided some key questions to ask yourself before starting the exploration process with vendors.

Data Wrangling— Where does your data come from?

Before you can do anything, you have to get a clear understanding of the sources of data. Are you collecting data from internal sources such as a database or data lake? Third-party services, APIs and tools? All of the above? By answering these questions you can determine whether you can settle on an off-the-shelf ETL or ELT solution (more on this later), or you need to build out a custom tool to pull together internal company data. Semantics are hard. It pays to know what your data means, and what data is trusted and important to your company.



Data Storage— What types of data and how will you store it?

What kind of data are you working with? Is your data structured or semi-structured? And how do you plan to store it? You want to generate insights to make informed decisions, so you'll need a data storage strategy that enable domain experts to dig in and ask their toughest questions of the data during analysis.

You may also need to consider adding a data lake to your architecture to meet additional demands. (more on this later).

Schema ?

```
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    "mode": "REQUIRED",
    "name": "qtr",
    "type": "STRING"
  },
  {
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    "mode": "NULLABLE",
    "name": "rep",
    "type": "STRING"
  },
  {
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    "mode": "NULLABLE",
    "name": "sales",
    "type": "INTEGER"
  }
]
```

Data Analysis— How will you enable data discovery, generate data insights and provide data access?

When it comes to data discovery, what lines of inquiry are important? Who will need to access and explore your data? Is it constrained to the data team, or do you expect business experts to query data and generate reports? The answers will help guide you to the right analytics tools to purchase.

With a better understanding of your data needs, you're ready to move on and learn more about the components that make up a modern cloud analytics stack.



Components of the Modern Analytics Stack

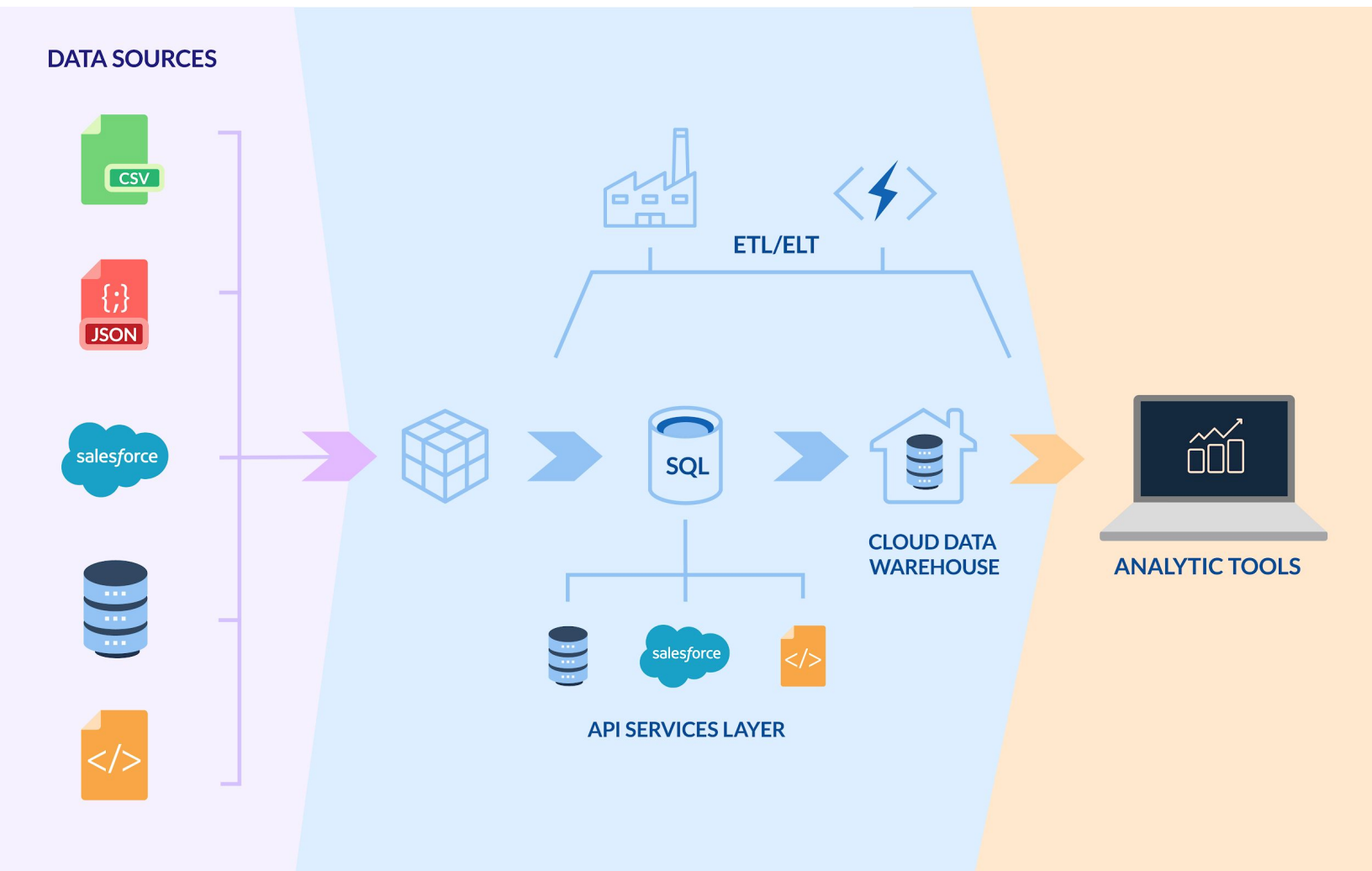


Figure 1. Components of a cloud analytics stack

Collecting Data

ETL and ELT

What is ETL?

ETL (Extract, Transform, Load) is the traditional process of moving data from original sources to a data lake or database for storage, or a data warehouse where it can be analyzed. In the past, this usually involved moving data from one database to the warehouse, but this has quickly changed over the last decade as companies began to rely more on third-party SaaS tools that produce multiple streams of data. Examples include Salesforce, Workday, Marketo, and Zendesk. These platforms communicate via APIs with an ETL tool to constantly transfer live data from point A to point B, commonly referred to as the “data pipeline”.



1. Extract: retrieve data from sources
2. Transform: compute and format data for integration
3. Load: transfer data to data warehouse, database, or data store.

While ETL platforms are no stranger to the data stack, the rise of SaaS tools require modern enterprises to manage huge amounts of structured and unstructured data in real time from multiple sources at a massive scale— something legacy ETL vendors and on-prem data warehouses simply cannot manage. When selecting an ETL vendor, be sure it supports your SaaS toolset and transfer needs. However, it’s not entirely uncommon to use multiple ETL vendors to transfer data from a range of data sources.

ETL

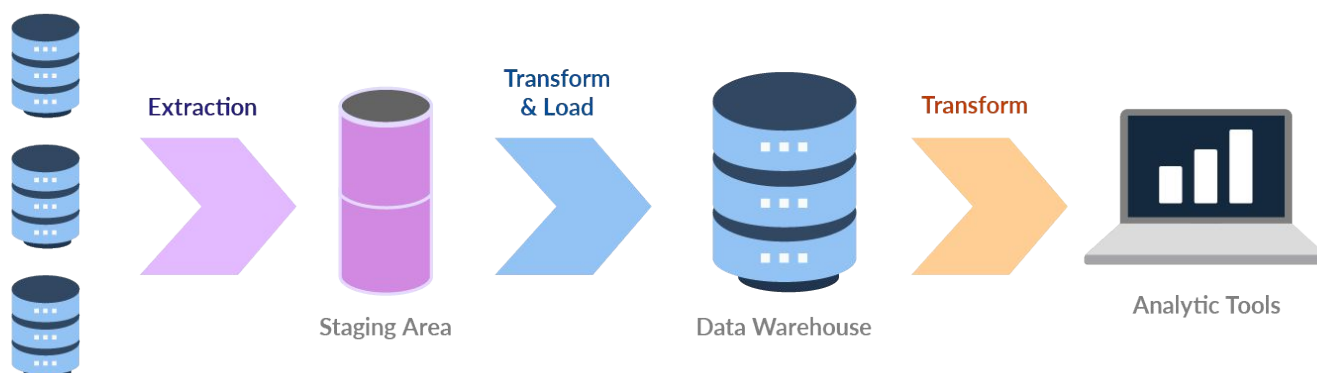


Figure 2. Traditional ETL workflow

“Enterprises should adjust their approach by using ELT tools that specifically solve for the data centralization problem.”

— George Fraser, CEO



When to Consider ELT

You may also want to consider a vendor that not only supports ETL, but also ELT (Extract, Load, Transform). This modified pipeline loads the extracted data into the cloud data warehouse where transformation occurs. This process can be advantageous as it allows you to leverage the power of the cloud to perform complex joins and calculations. This parallel approach means you can perform transformation where it makes the most sense for your workflow, in the pipeline or in the warehouse. This method is becoming more common as companies seek to avoid the risks of poorly performing hardware and the costs associated with upgrading an existing ETL infrastructure.

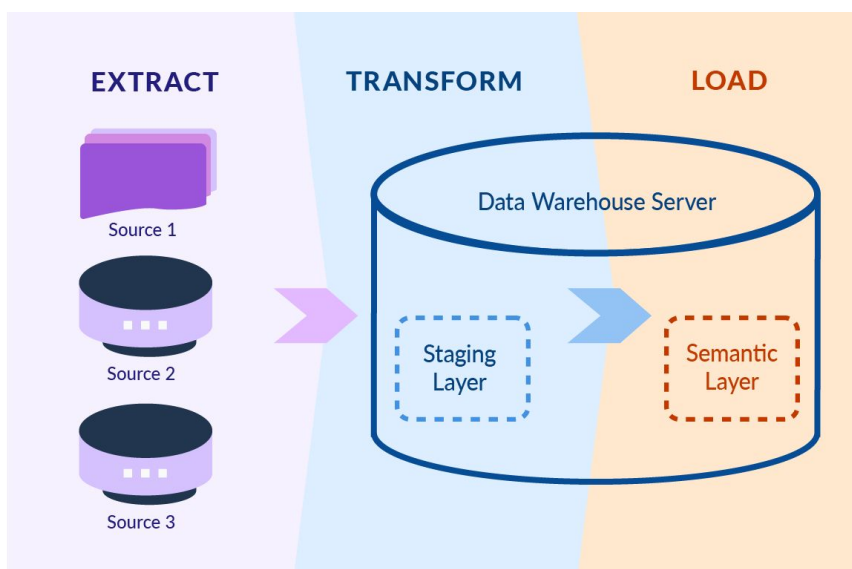


Figure 3. Modern ELT workflow

When to Build a Custom Solution

There may not be a single tool that supports every data source you work with. Building a custom ETL tool may be necessary in these situations. While it's not as common as it used to be (mostly because companies tend to use similar tech tools across industries), it can happen. If you run into this problem there are several commercial and open source tools you may want to consider.

Other things to consider when choosing an ETL/ELT vendor

Flexibility

Choose a vendor that manages multiple data sources, including support for structured and unstructured data—even if you don't need that support today. This may come into play down the road, and if it does you won't need to change providers.

Cloud Data Warehouse Support

Not all ETL/ELT vendors are created equal. As mentioned, modern ETL tools are designed to integrate with cloud data warehouses, whereas legacy ETL tools only integrate with on-prem data warehouses. Be sure the vendor optimizes for your data warehouse of choice.

Pricing

While each ETL/ELT vendor prices their solution slightly differently, it's important to have a basic understanding of pricing frameworks. You'll want to take the pricing mechanisms into consideration to ensure the price works for your company now and in the future, should you integrate additional data sources or scale significantly. The last thing you want is to invest early in an ETL provider and find out that a year later it's no longer a feasible option. Switching costs can add significant time investment and cost downstream. So planning upfront can save you headaches in the long run.

While today's vendors pricing tends to be charged on a monthly recurring pricing structure, you may also encounter annual pricing as well. Here's a breakdown of some of the most common pricing mechanisms for ETL providers:

Integration-based Pricing

Some vendors have various levels of pricing based on the number of data source integrations you work with. It's not uncommon to see multiple tiers that range from 2, 5, 10, or unlimited integrations with data sources.

Row-based Pricing

Another common pricing mechanism that you may come across is a row-based approach. For example, one pricing tier will cover up to 25M rows of data, while another 50M or 100M, and an enterprise level may be custom priced, but support unlimited rows of data.

Volume-based Pricing

While not as common as the other pricing mechanisms covered above, some vendors may charge based on the volume of data pushed through the pipeline per month. This is commonly measured in the maximum transmission unit, or MTU.

More information on ETL

- [ETL Process: Traditional vs. Modern from Alooma](#)
- [ETL Process from Stitch Data](#)
- [What is ETL from Talend](#)



Common ETL/ELT Vendors



Alooma enables data teams to have visibility and control. It brings data from your various data silos together to your BigQuery or Snowflake data warehouse, all in real time.

[Learn More](#)



Shaped by the needs of analysts, Fivetran's fully managed pipelines enable data-backed decisions company-wide by delivering ready-to-query data into cloud warehouses, including Snowflake, Redshift, Panoply, BigQuery, Periscope, and more.

[Learn More](#)



Matillion is a purpose built data transformation tool for cloud data warehouses, including Redshift, BigQuery, and Snowflake.

[Learn More](#)



Stitch is a cloud-first, developer-focused platform for rapidly moving data to multiple cloud data warehouses including Snowflake, BigQuery, Redshift, PostgreSQL, Azure, and Panoply.

[Learn More](#)



Talend offers a single suite of data integration and data integrity apps that accelerates the availability of trusted data throughout the organization.

[Learn More](#)

Storing Data

Cloud Data Warehouses and Data Lakes



Every company produces data on a daily basis. Whether it's transaction data from a purchase, customer interactions inside a product or app, or even a simple account debit at the bank, all this data must be stored inside of a database or data lake in real time. Choosing how to set up your data architecture largely depends on the types of data you store and how you choose to use it.

The Modern Data Warehouse Lives in the Cloud

Capturing this data is just the beginning. To understand that data, it must be stored in a relational data warehouse that provides a way to query the data. Think of the data warehouse as your data hub that is the center of your analytics stack. Cloud data warehouses give teams the power to explore data and allow business experts to generate insights using cloud analytics tools.

Many data warehouses in use today were built to service the on-premises data centers of the past. But these solutions are a dying breed as they get replaced with the next generation of cloud warehouses designed to provide greater flexibility and manage real-time data demands. On-premises data warehouses generally require large upfront investment in hardware, license fees, and ongoing maintenance costs to manage. They also cannot elastically scale up or down to meet data demands, meaning companies have to pay to provision a warehouse for peak use despite varying workloads that change over time as analytics needs arise. Together, this leaves companies overpaying for data management and wasting IT resources that could be spent on higher value projects.



Modern cloud data warehouses eliminate upfront infrastructure costs and don't require the ongoing investment to partition, optimize, or vacuum data. They can also collect data from many sources to scale elastically to support nearly infinite users and analytic workloads for faster insights. This includes structured and unstructured data, such as JSON—largely eliminating the need to turn to open-source projects like Hadoop to manage these data types. Further reducing the upkeep and maintenance many data teams face on a daily basis.

These solutions allow enterprises to add any number of users, implement familiar, easy-to-use analytics tools, and benefit from lower costs—all without sacrificing security, governance, or data compliance.

Learn more about the benefits of cloud data warehouses here:

- [Delivering Data Warehousing as a Service, from Snowflake](#)
- [How Modern is Your Data Warehouse, from Google BigQuery](#)
- [Modernize Your Cloud Data Warehouse, from Amazon Redshift](#)

When to Use a Data Lake

Data lakes are a flexible option that allow you to store data outside of rigid schemas. Analytics stacks that are built entirely on a data warehouse can sometimes make it harder to analyze data outside the schema without constant efforts to curate and clean the data on a regular basis. In cases where you have large amounts of data collected and stored outside of your schemas, this approach can make sense.

"Data lakes and data warehouses are different tools for different purposes. If you already have an established data warehouse, you might choose to implement a data lake alongside it to solve for some of the constraints you experience with a data warehouse."

— Bernard Marr

Forbes

It's not uncommon for companies today to have both a cloud data warehouse and data lake. Data lakes make it possible to store non-relational data from mobile apps, IoT devices, and other non-traditional data sources. Data captured outside your pre-defined data schema is better stored in a data lake because you may not know what types of questions you want to ask of this data upfront. Learn more about data lakes here: ["What is a data lake?" from Amazon](#)

Choosing a Cloud Data Warehouse

Choosing the right cloud data warehouse isn't an easy decision. It pays to do your homework in advance. Making the wrong decision will cost you down the line and disrupt operations. When making your selection, here are some key things to keep in mind.

Scalability

Growing companies need to consider investing in a warehouse that can grow with them. This is one of the greatest benefits of the modern cloud data warehouse, but keep in mind that each warehouse scales a bit differently. So when choosing a provider consider how easy it is to scale, the cost of scaling, and what IT resources you need to grow. Ideally, you would find a solution that can scale automatically to support any level of concurrency or query volume.

Speed

Accessing and processing data in the warehouse takes time. But the cloud makes this faster. Each provider stores and processes queries a little bit differently. For example, some process data in parallel, while others will spin up as many clusters as needed to deliver results in seconds. You'll want to learn what limitations exist and whether they will impact the time it takes to generate insights for users.





Security

Unlike on-prem solutions, the leading cloud data warehouse providers are incredibly quick to release the most up-to-date security features and protocols via patches—meaning internal IT teams won't have to maintain security themselves.

Cost

With cloud warehouse providers, you're generally only paying for what you use, but there are some stipulations to consider. Depending on the provider you may be charged at a flat rate, per hour for storage and compute, or pay-per-use of compute and storage. Consider the cost today and in the future. Choosing a provider that has pricing that works with your needs makes it easy to predict the costs down the road as you scale.

Connectivity

As you grow you'll need to onboard additional users or support new data sources, and integrations become important. Forecasting changes downstream will save you headaches later. Be sure your data warehouse provider integrates with your ETL and BI tools of choice.

Reliability

Generally speaking, cloud data warehouses are much more reliable than on-premises data warehouses of the past. Choosing a provider such as Snowflake, Amazon, Microsoft, or Google means you get world-class engineering teams on your side. That said, it still pays to check out how they have managed past issues and how long they take to reach a resolution. A big part of this is the reputation of customer service teams and the way they communicate. Make sure to choose a provider that can support your team if and when something goes wrong.

Use

How you use a data warehouse may ultimately determine the provider you choose. Make sure you consider what your company needs and the use case of teams. If you're mostly using your data warehouse for machine learning and data science your needs will be much different than if you want to provide on-going, ad-hoc analysis or self-service analytics to your entire company. Consider whether you need real-time data access, built-in statistical functions, data preparation, or support for multiple data types.

Common Data Warehouse Vendors



Azure is a fully-managed SQL cloud data warehouse for enterprises of that combines lightning-fast query performance with industry-leading data security. Optimize workloads by elastically scaling your resources in minutes. Integrate seamlessly with the Azure suite of tools and BI providers to build a single holistic modern data warehouse solution for all your analytical workloads.

[Learn More](#)



BigQuery is Google's serverless, highly-scalable enterprise data warehouse that is designed to make data analysts more productive . Because there is no infrastructure to manage, you can focus on uncovering meaningful insights using familiar SQL without the need for a database administrator.

[Learn More](#)



Amazon Redshift is a fast, scalable data warehouse that makes it simple to analyze all your data across your data warehouse and data lake. Redshift delivers fast performance by using machine learning, massively parallel query execution, and columnar storage on high-performance disk.

[Learn More](#)



Snowflake's cloud-built data warehouse makes delivering instant elasticity, secure data sharing and per-second pricing, across multiple clouds simple thanks to its patented multi-cluster architecture, speed, and flexibility. Snowflake combines the power of data warehousing, the flexibility of big data platforms and the elasticity of the cloud at a fraction of the cost of traditional solutions.

[Learn More](#)

Data Discovery and Collaboration

Cloud Analytics



What to Look for in a Business Intelligence & Analytics Tool

It's important to get a good idea of what you need from your analytics solution. Every company is unique, and needs will vary. Evaluate any internal requirements you may have and align any purchasing decisions with those goals. It's also important to note that not all BI tools are the same (or solve the same problems). Often, companies deploy multiple tools for different use case, teams, or business units. With that in mind, here are some guidelines to consider when selecting an analytics tool.

Take a User-Driven Approach

Remember that you're building a solution to meet the needs of the business and analytics experts at your company. That's why we suggest taking a user-driven approach. Is this solution for a specific department, or will people across the entire company be expected to explore data and generate insights?

In the past, data analysis sat in the hands of the data team, technical analysts, c-suite, or ran off Excel. But that's all changing as more companies seek to make data a bigger part of their culture, keep data fresh and secure, provide access to massive data sets, and aid better decision-making. The rise of the self-service analytics now make it easier to get data in the hands of any employee. These tools tend to have shorter learning curves and can be set up to meet the needs of people without a background in data science or extensive analytics training.

Determine User Engagement

Consider how you want people to engage with data. Do you expect users to simply absorb insights through dashboards and reports, or is further data exploration important? Reports and dashboards can highlight trends, but often raise more questions than they answer or become outdated quickly. Many analytics tools require an understanding of SQL to ask any complex questions. This skill set rarely exists outside of the data team.

If you expect domain experts in marketing, sales, finance and other departments to use your analytics solution, you're going to need a self-service tool that allows business people to explore and query data without a background in SQL. Tools like Sigma empower business experts to ask more of their data without writing a single line of SQL, opening up big data queries to users outside of the data team.

Encourage Collaboration

If you discover insights, and you have no way to share it, does it make an impact? When it comes to BI communication and collaboration are key. But both are difficult with legacy analytics tools due to rigid licensing models, antiquated sharing tools, and dead-end dashboards. When looking at a modern cloud solution, keep collaboration in mind. Not only should it be easy to share reports and embed dashboards, but consider how easy it is for teams or coworkers to build upon each other's analysis in the analytics tool itself. Being able to see the analysis your coworkers create and the data they are referencing lets you build on the base that someone else has created. This generates analytic compound interest, where one insight can quickly lead to others. It can also ensure multiple teams remain on the same page and share common metrics. Ultimately, collaboration helps surface the most useful insights without locking people into predefined questions.

Keep Adoption in Mind

It's hard to create a data-driven culture if analytics applications aren't easy to use or pricing models impede adoption with burdensome upfront costs. More and more enterprise software tools are moving away from buttoned-up interfaces in favor of simple, modern design that is intuitive and easy to use.

Cloud pricing models are also becoming more common. And it makes sense. Companies are tired of paying for what they don't use, and with the cloud they don't have to. These features encourage organizational adoption in ways legacy tools have failed to deliver. Look for these features when considering an analytics application. It will help make it easier to drive adoption and ensure data becomes a central tenet of your company's culture.

Components of a Cloud Analytics Tool

Built for the Cloud

If your data lives in the cloud, shouldn't your analytics? Most analytics tools available today have some form of cloud offering, but few are built for the cloud from the ground up. A move towards a fully-managed cloud solution makes sense at this stage. Why? The cloud-first data stack has finally reached maturity, and the constraints of on-prem or hybrid solutions hold back growing companies as they look to data to make smarter business decisions. You want to take advantage of the cloud benefits such as elasticity, real-time data access, sharing, and usage-based pricing.

Flexible Data Modeling

Most analytics tools have built-in data modeling capabilities. But few products provide data admins with a flexible way to guide people's data exploration and build centralized data definitions without holding back the business teams reliant on the insights.

You want to balance control with the freedom to let business users find, add, and trust new data when completing an analysis. Otherwise, business experts can wait days or weeks for the data team to make model changes—which often causes them to go around the data team, download data extracts and use tools like Excel. This can introduce additional risk and make it hard to comply with data regulations.

Data Support and Accessibility

Data velocity is only increasing, and data diversity along with it. Semi-structured data—like JSON—is now the norm. And analytics tools aren't keeping up: many can only deal with this data once it is flattened. The result? Most people get cut out of the data conversation because they have to wait for data teams to clean and curate it. Be sure to consider whether the tool you choose can support your data types, and doesn't limit data access for those who need it.

Reporting and Dashboards

With any analytics tool, the ability to generate and share reports and dashboards are a must. Just make sure that's not where analysis stops. Too many tools rely on visualization and reports, and don't allow users to ask more questions through exploring data further and drilling down into the trends. Also keep in mind that you want a tool that can keep these reports and dashboards up to date in real time and have embedding capabilities that allow you to share the insights outside of the tool itself, say in an app or on a website. This gets more people involved in the data conversation and helps drive data adoption.

Scalability

When choosing an analytics tool, it's paramount that you select one that is capable of scaling with your company as analytics needs grow. Generally, data velocity will only increase down the road, so plan ahead with the right tool. Whether supporting additional users, reporting, data types, or data sources, scale is something often overlooked. Your analytics tool should be able to not only support your growing needs today, but keep your data, users, and reports organized with future demands as your company and analytics needs grow.

Sharing and Collaboration

Collaboration tools have undergone a renaissance. Slack and Google Docs changed how people work together, and set expectations for how easy things should be. Now analytics tools like Sigma have brought this approach to BI. Collaborative BI means being able to work seamlessly and effortlessly with internal and external partners, easily finding and building on the most relevant analysis. Fully-cloud systems and improved AI-driven algorithms enable new collaborative platforms. This approach is shrinking the data access gap and will help you drive greater adoption by getting data in the hands of business experts who can put it to good use.

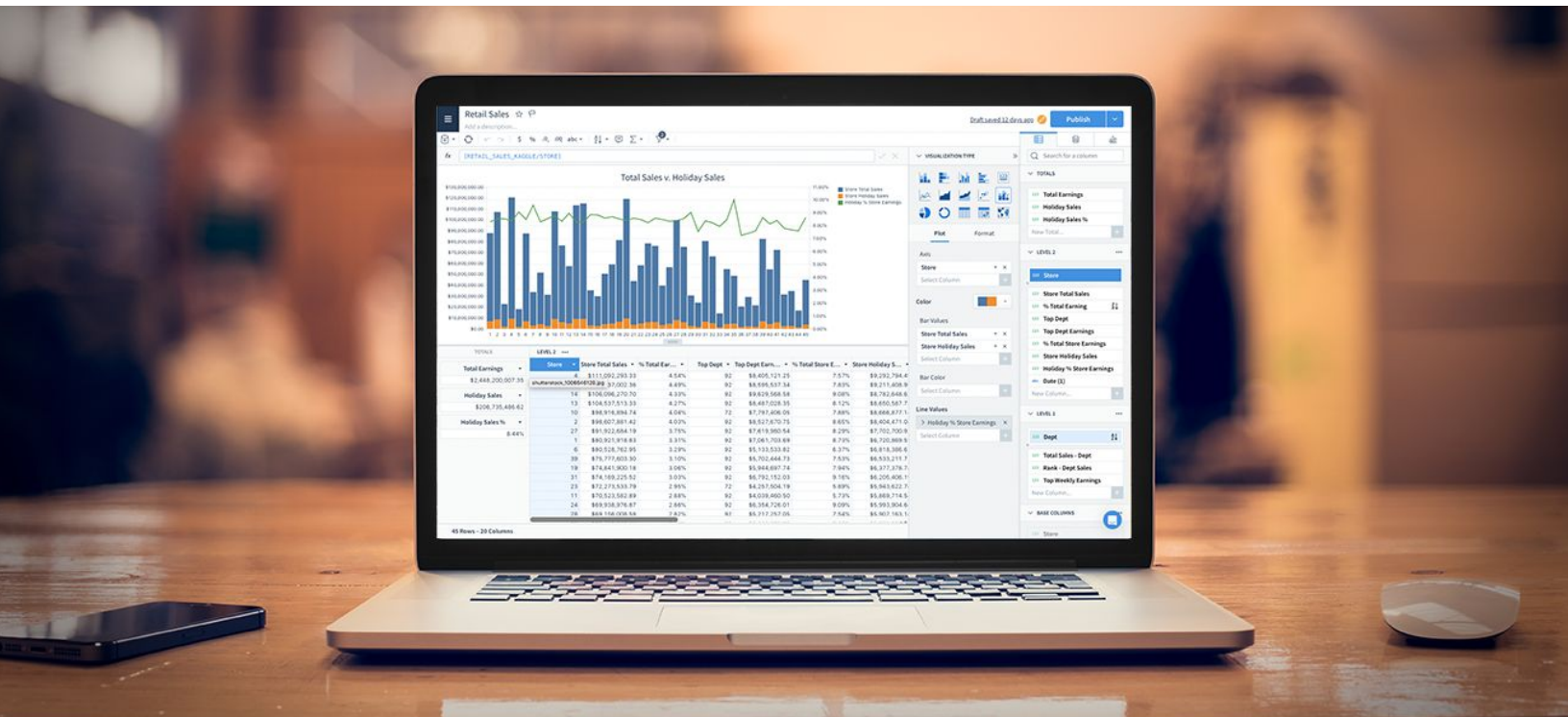
Security and Governance

These days, it seems like every time you turn around another company announces a data breach. Historically, many of these breaches have come from insecure data practices surrounding extracting data to spreadsheets that are hard for a data team to track and ensure compliance. The most secure place for data is in the cloud data warehouse. Cloud computing can offer better physical security benefits than on premise. Cloud providers have governance oversight to ensure their compliance with security standards, as well as dedicated personnel to keep data at scale secure. When handing over the physical control of your data, you are handing it to a company that specializes in keeping that data online and secure.



A New Approach

Analytics for Cloud Data Warehouses



Meet Sigma

Sigma is analytics built for the cloud. Trusted by a growing number of data-first companies, Sigma provides live access to cloud data warehouses using an intuitive spreadsheet-like interface. This unique approach empowers business experts to ask more of their data in a familiar environment, without writing a single line of code, learning complicated BI tools, or being trapped in a dashboard or static report.

With the full power of SQL, the cloud, and a familiar interface, business users have the freedom to analyze data in real time without limits—meaning they aren't constantly relying on the data team to generate reports, update dashboards, or manage data modeling as new needs arise.

Sigma is self-service analytics as it was meant to be: a single source of truth that eliminates data extracts, simplifies analysis, and drives BI adoption at every level of business.

Why Sigma is Different

Built for the Cloud

Sigma is the only cloud-native BI and analytics tool on the market. Unlike other solutions, Sigma was built to take advantage of the modern cloud data warehouse. With Sigma you get live data access backed by the power, flexibility, and scalability of the cloud. Plus, Sigma supports multi-structured data and flexible cloud pricing—so you only pay for what you use, unlike traditional BI and analytics tools.

Easy and Powerful

With Sigma, your data is front and center. Explore data in a familiar spreadsheet-like interface. Ask your toughest questions using a visual interface without having to write a line of code. Sigma generates complex SQL queries 'under the hood' as users work, and because it's backed by the cloud data warehouse, you can analyze billions of rows of live data in seconds. No question is off limits.

Fresh and Secure Data

Data security is always top of mind. Unlike other solutions, Sigma never stores your data. Connect directly to your cloud data warehouse and analyze data instantly. With Sigma your data is always fresh and kept in the cloud data warehouse where it's the most secure.

Lightning-fast Set-up and Insights

BI software has always been known for taking months of setup, and requiring hours of training before users can generate value and insights. But we're rewriting the playbook. Sigma connects to the cloud data warehouse in seconds and requires no training, no data modeling, no extracts, and no programming—keeping data front and center where anyone can glean insights.

Cloud Collaboration

Cloud apps like Google Drive and Slack have changed the way people work. Now business experts can get the collaborative features they love from their analytics tool too. Sigma supports unlimited users so anyone can access insights and explore data. Even more, Sigma makes it easy to build on the work of your coworkers. Collaborate, save time, and unlock the answers to any question, together.



Freedom and Control

Historically, analytics tools have failed to give domain experts the freedom to explore data. Instead, users were confined to reports or dashboards. Sigma has changed the paradigm. Now the data team can give data access to anyone, while still maintaining a healthy balance of control where needed—so your team benefits from the best of both worlds.

Codeless Data Modeling

Sigma's data modeling provides a flexible way to guide people's data exploration and build centralized data definitions without handcuffing your business experts. We've balanced control—as much as you need—with the freedom to let business users find, add, and trust new data approved by data teams.

Pre-build Sigma Data Blocks using the visual interface in minutes – without writing code. There is no need to learn new modeling languages or write SQL, unless you (or your SQL gurus) want to use our SQL runner.

And since business experts no longer have to wait for model changes they are less likely to download extracts and go, so your data remains in the warehouse where it's safe and secure.

Learn more at www.sigmacomputing.com

Next Steps

Explore the Vendors Discussed in this Guide

If you're ready to learn more, we suggest you check out the ETL/ELT and data warehouse vendors discussed in this guide. While we've provided the basics, you can get more specific technical questions answered by a member of their team. We also recommend reading sites like Quora to hear what product users are saying. Do your homework early on to save your team headaches later. Make the right decision the first time.

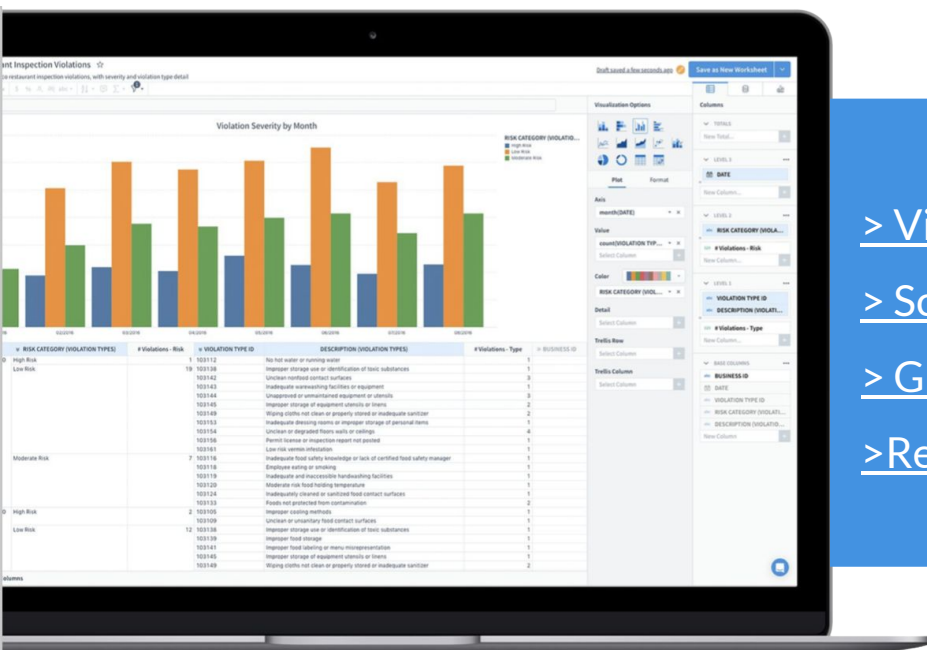
If you have further questions, our team of experts is available as well. We've worked with dozens of companies, and are happy to connect you with a partner or guide you through the process.

Set up a Proof of Concept

Once you've found the right vendors, set up a proof of concept (PoC) to test out your analytics stack. This classic try-before-you-buy approach can make all the difference down the line. During a PoC, problems can bubble up, feedback can be collected, and you can make sure the stack is the right fit.

Try Sigma

As part of your PoC, give Sigma a try. You can set up a trial in minutes, and start analyzing data in a few clicks. See how easy it is for anyone on your team to turn cloud data into insights and share them organization-wide to aid the decision-making process.



[> Visit Sigma's Website](#)

[> Schedule a Demo](#)

[> Give Sigma a Try](#)

[> Read a Customer Case Study](#)

