Looker

Whitepaper
May 2020

Embedding Analytics:

The Looker Platform vs. Alternatives

Google Cloud

In this technical comparison guide we examine the most important criteria for evaluating embedded analytics platforms, in order to help you to make the best decision for your product experiences, internal teams and technical requirements.

Embedding: A Smarter Use of Data

As digital transformation takes hold, organizations of all sizes are experiencing a fundamental shift in strategy. The proliferation of software continues to create massive volumes of highly varied data at a faster pace than ever before, forcing even the most established organizations to reassess their use of data.

How do modern organizations stay competitive when their customers are demanding personalized insights precisely when and where they need them? For many, insights are not enough... they need to be able to easily take action from their data via deep integrations into other applications, workflows and processes.

Leading organizations have realized the only way to compete is to focus on what they do best, and double-down on core competencies. Rather than wasting precious resources on building and maintaining an in-house analytics platforms, they decide to buy a best-of-breed solution. Instead of building a data pipeline, they focus on what the customer experience with data should be. This enables them to bring higher quality analytics- augmented product experiences to market faster, with far less investment of internal resources.

For many, providing analytics capabilities to their customers quickly becomes a core part of their offering and a lucrative new revenue stream. They experience higher engagement and lower churn, and see investment of budget and internal resources follow the value that's created. All of this allows their teams to grow, engage and monetize their customer base with greater success.

With so many solutions on the market, it's critical to understand what's most important when evaluating options. In this technical comparison guide we examine the most important criteria for evaluating embedded analytics platforms, comparing Looker against the alternatives. Understanding what each can do for your business can help you to make the best decision for your product experiences, technical requirements and resource allocation.

Criteria for Evaluating Vendors

Architecture	Which parts of the analytics stack are provided? (e.g. Databases, ETL, Modeling layer, Visualization)
Scalability of performance	How does the technology performance change as you grow number of tables, volume of data, number of users, or concurrency?
Single source of truth	When underlying metric definitions are created or changed, how efficiently are these updates made and propagated to each report, visualization and automated process? Can everyone reference a single version of these metric definitions? Is it a black box solution? Can your metrics be version controlled?
Authentication	How seamlessly will the solution work with SSO? NB: The technical challenges here are the top reason why organizations decide to buy instead of build in-house embedded analytics platform.
Permissioning	How efficient is it to make granular changes to permissions when managing data and exploration access for 1000s of users, groups, or customers?
Collaboration	Is the solution web native or desktop native? How will this limit user collaboration or system interoperability?
Servers	Does the product offering align with IT preferences or industry requirements? (e.g. private cloud, public cloud, or on-premises deployments)
Data preparation	Who prepares the data and what skills do they need to build and maintain the data model?
Agility	How agile is the data model development release process? When will releases break the customer experience?

Criteria for Evaluating Vendors

Customization	How flexible is the customization of the content type, layout and branding options? What is the underlying data visualization engine behind charts? How does this impact the agility and flexibility of customizing how data can be visualized?
Data exploration	When the customer or user has a question, can they self-serve to explore further? Or is the analyst required to ask new questions of the data?
Flexibility	Does the solution meet your desired endpoints' technical requirements? How many places and ways can you embed content?
Maintenance Costs	As data continues to grow in variety, volume and velocity, how will this impact your future investments in maintaining a good experience for customers and users?
Alerts and Data Actions	Who is able to set, schedule and receive data-triggered alerts and actions: users/ customers, data analysts or both?
App Integrations	What depth and breadth of integration with your internal systems and processes do you need?
Pricing	How predictably are your costs going to scale as you grow? How customizable is the pricing to your business model and strategic value creation?
Time to Value	How fast can you deploy and scale? What resources are available to deploy efficiently and effectively?
Enterprise Platform	What enterprise-grade security, governance, and scalability capabilities do you get out-of-the-box? How versatile is it to all of your analytics needs... current and future?

Looker Platform vs. Alternatives

Data visualization and full-stack solutions are great in many situations. They may appear attractive for embedded analytics at first, but defer pernicious longer-term financial, time and resource liabilities until the deployment reaches greater scale.

Data visualization tools are designed for individual analysts to prepare visualizations that help business users consume data more easily. Commonly, these stunning, snappy visualization tools demo really well when using vendor-provided data sets that are optimized for demonstration.

However, in addition to understanding visualization capabilities, it is important to identify their hidden or future limitations. We recommend buyers request a proof of concept, and provide vendors with actual and simulated data sets they expect to ingest into the tool to stress test it against current and future needs. Less-agile architectures force the performance of many visualization tools to break at moderate scale, causing significant manual work whenever access permissions or metric definitions need to change for hundreds or thousands of endpoints.

Full-stack tools are designed to provide buyers with a one-stop shop for all analytics needs. Often, the simplicity of single vendor management seems attractive and, at smaller scales of data, the economics appear competitive. However, it is important for buyers to consider long term implications of choosing a full-stack solution. As best-of-breed database providers like Amazon, Google, Microsoft or Snowflake continue benefiting from massive and accelerating economies of scale, platforms leveraging their technologies will experience steady database performance improvements at any scale, while proprietary "full stacks" will struggle to keep up. In addition to performance, we recommend buyers carefully assess the costs of adding servers and databases from full-stack vendors, as data needs inevitably grow over time. What seems economical in the short term can lead to vendor lock-in at prohibitively high and growing costs at larger scales in the mid- to long-term. Neither data visualization nor full-stack tools can be considered complete embedded analytics platforms because they lack key components for embedding with proper data governance, agility and scalability.

Modern analytics platforms, like Looker, make embedding data in products and third party applications rapid, easy and scalable. Analysts can efficiently prepare data sets, and engineers can quickly embed pre-built dashboards, call APIs directly, integrate workflows and customize the look and feel of visualizations to meet their users' expectations. The solutions are easy for SQL analysts (in-house or contractors) to get up and running, and offer expert technical support and best-practices resources as needed.

Comparing Embedded Analytics Solutions

	Common Full-Stack or Visualization tools	Looker Platform for Embedding Analytics	Business Outcomes with Looker
Architecture	In-memory. Requires slow ETL of data to inflexible vendor-owned database.	In-database. Good for organizations leveraging modern, centralized MPP databases and a best-of-breed tech stack.	Flexibility, future-proofing, speed.
Scalability of Performance	Only simple volumes and sources of data.	Web scale data volume from unlimited sources. Concurrency limited only by how fast the database allows the app to load.	Get more value from large and growing data sets.
Single Source of Truth	Analysts need to manually write, non-reusable, error-prone SQL queries to create data environment for business users. This leads to data bottlenecks and data chaos.	Unified, version controlled model across business functions, serving as a single-source of truth. Allows for self-serve business users to query in real-time.	Efficient and scalable use of data analyst resources.
Authentication	Integrates with SSO.	Integrates with LDAP and SSO workflow so users only need to log in once.	Engineering resources focused on core competency, rather than building an in-house embed platform with authentication
Permissioning	Repetitive and cumbersome: Data cube or workbook sprawl requires updates to each one individually.	Granular and efficient. Make updates in one place and changes propagate to all endpoints.	Efficient use of analyst resources.
Collaboration	Desktop native, increasing web functionality.	Web native. URL shared links.	Seamless sharing for easier collaboration
Servers	On-prem originally. Moving functionality to cloud.	Cloud-native, on-premise, private/ public/hybrid cloud options.	Regulatory and business model compliance.
Data Preparation	Business users can do visual drag-and-drop, but have limited ability to explore further	No need to extract or cube. No need for an engineer to do any heavy transformation up front. Instead, defines logic in modeling layer, and Looker transform the data at the time of query.	Let customers explore and ask further questions of the data. Free up significant data engineering resources.
Agility	Non-agile development: high risk of breaking dashboards and metric definitions when modifying.	Full git versioning for Dev/ Staging/Production. Good for frequent releases.	Stable, product performance even with high release frequency.

Comparing Embedded Analytics Solutions

	Common Full-Stack or Visualization tools	Looker Platform for Embedding Analytics	Business Outcomes with Looker
Customization	Varies	Best-in-class visualization engine. Highly agile and flexible.	Easy data consumption for data un-savvy users or customers.
Data Exploration	Non-technical users can only ask simple questions. Limited drills because of cubing. Users are bottlenecked by analyst. Creating or modifying reports take technical expertise.	Complex reusable business definitions, ask real-world questions. Advanced drills, highly configurable, indiv. website/dash. Users can self-serve.	Efficient use of highly valuable data analyst and engineering resources.
Flexibility	Varies	Front End Javascript interactivity, SDKs, REST API, white labeling, iframe, custom plug-ins.	Flexibility for use in varied endpoint environments.
Maintenance Costs	Low (if cloud). Still need server to ingest data.	Lowest. Code based modeling lets you define metrics and user permissions once and have changes update everywhere automatically. New users, customers and use cases are fast and easy to add as you grow.	Predictable performance and costs. Ability to rapidly prototype to drive product-market fit.
Alerts and Data Actions	Varies	End users set and receive data-triggered alerts.	Efficient use of highly valuable data analyst and engineering resources, empowering business users to uncover new value.
App Integrations	Varies	Depth and breadth of best-of-breed application integrations	Seamless user and customer experiences across applications.
Pricing	Buying new expensive proprietary servers as you scale. Hard to predict, costs grow non-linearly with scale.	Predictable price tied to growth in value, not affected by data/ report volume.	Predictable, optimal long-term costs.
Time to Value	Medium: weeks/months.	Low: days/weeks.	Rapid time to value.
Enterprise Platform	Built for enterprises, but slowed by complexity and legacy technologies.	Designed for best-of-breed enterprise grade security, governance and scalability.	Peace of mind. Leverage your investments. Versatility to current and future needs.

The Looker Platform

Embedding analytics using the Looker platform allows businesses to quickly modernize, highly customize and deeply integrate their use of data, while immediately benefiting from best-of-breed enterprise grade data governance, agility and scalability.

Looker's uniquely scalable in-database architecture allows your team to keep your data where it already is. Data analysts can then reliably define business metrics once through an efficient and reusable SQL-based modeling language called LookML. This shared set of definitions takes care of typically time intensive data wrangling, so software engineers building analytics-augmented experiences can focus on writing software with high return on engineering effort.

Meanwhile, the data consumers can get immediate access to billions of rows of live data, knowing they are always looking at the latest, correct information, and not a stale extract.

Further, by integrating data into workflows and business processes, and automating rule-based or scheduled actions and notifications, your teams, customers, data and technology all get to work together better. The Looker platform offers a robust suite of secure APIs, best-in-class professional services, and the documentation required to get up and running with your embedded analytics or app integrations in a matter of days, not weeks.

Business Benefits of Embedding Looker

Best-in-Class Time to Value

World class professional services to ensure you are up and running in a matter of days, and supported throughout your product development process.

Massively Scalable

Update user permissions and business metric definitions all in one place and propagate changes to all endpoints instantly.

Agile Development

Data model git-versioning for agile software development process. Stable release cycles, complete version history, roll back any changes easily.

Predictable Pricing

Customizable to your unique business model and use of the platform. Cost grows linearly with the value you get.

Enterprise Grade Security

In-database architecture means you never have to move your data and reduce your attack surface. Authentication, permissioning and robust administration.

Future-Proof Your Investments

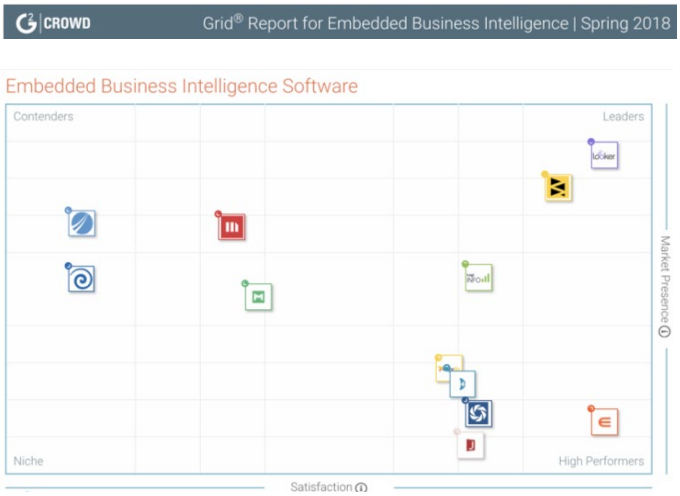
As your data and your business grow, you're able to take advantage of the fastest databases. Better leverage your previous and future data investments.

Highest Rated Vendor

In the Gartner May 2018 Peer Insights "Voice of the Customer" report for BI and Analytics Platforms, Looker achieved Highest Rated Vendor honors. The report provides first-hand reviews of over 15 vendors for product capabilities, customer support and more. Contributed by Enterprise professionals.

"Looker has the largest Market Presence and received the highest Satisfaction score among products in Embedded Business Intelligence. 99% of users rated it 4 or 5 stars, 94% of users believe it is headed in the right direction, and users said they would be likely to recommend Looker at a rate of 91%."

Gartner peerinsights™



Looker Platform Feature Overview

Modern Enterprise Analytics Platform

Easily embed data, charts and dashboards into your products or applications, with enterprise-grade data governance and permissioning.

Highly Scalable In-Database Architecture

Keep your data secure where it already is. There is no need for traditional ETL, giving you enhanced scalability and security.

APIs and Documentation

A robust suite of RESTful APIs, SDKs and popular application integrations make it easy to build custom workflows and applications on top of the Looker platform.

Git-Versioned Data Modeling

Designed for modern git workflows and agile development process. Gives developers fully revertible version history and stable release cycles.

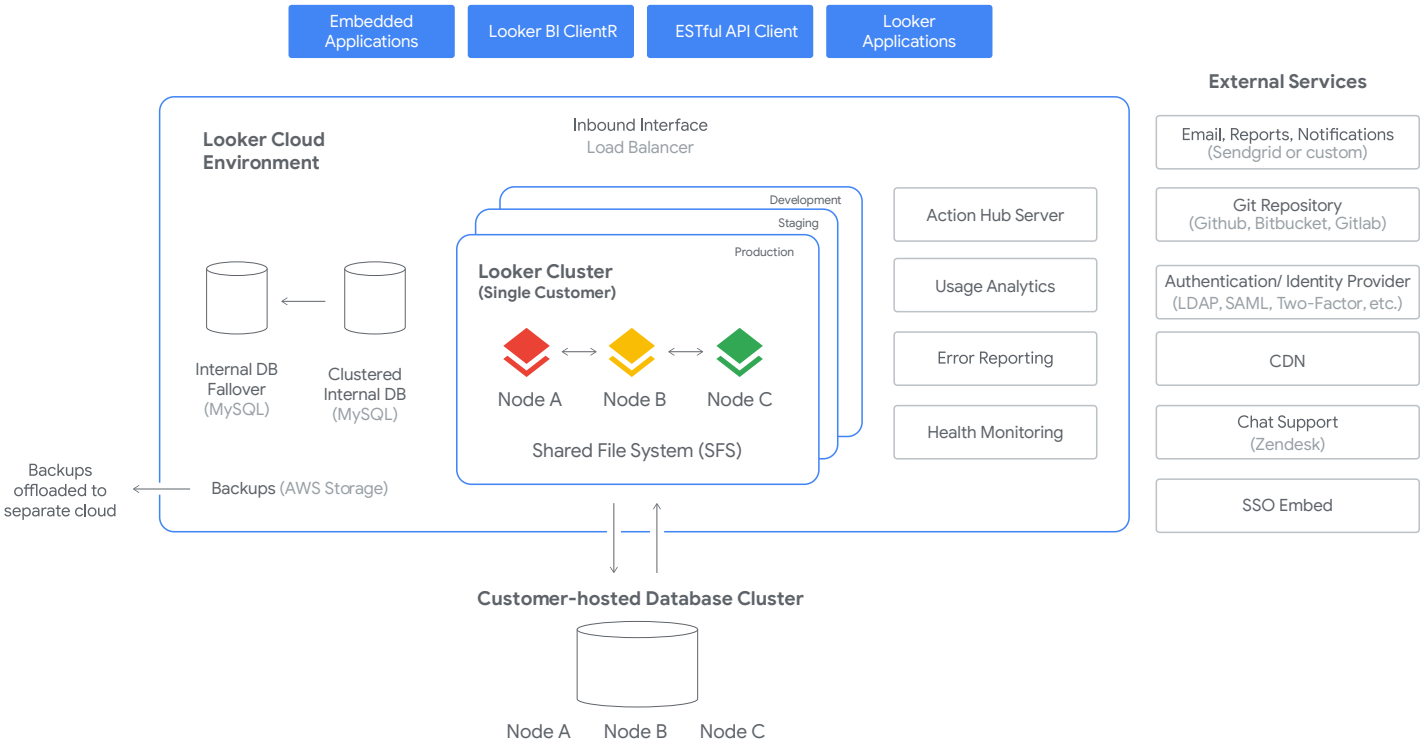
Full Customization

Control the look, feel, filtering and drillability of your data and visualization to your customers precise needs. Interactive iframes allow for rapid time to value.

Minimized Maintenance Cost

Engineers can focus on writing software, rather than spending time supporting changes for end users and scalability.

Looker Platform Feature Overview



The key differentiator of the Looker platform is its semantic modeling layer. LookML is a highly reusable and efficient SQL-based modeling language that allows data analysts to create a single source of truth for all business metric definitions.

Software engineers benefit from the scalability of a unified data platform by not needing to maintain or manually update individual charts, dashboards, or access permissions. This way they can focus on building the right analytics-augmented experiences into their products, without worrying about the data.

Additional Resources

Case Studies:

Urban Airship

Guidewire

Ibotta

ISCS

Webinars:

Embedding Analytics: What Are Your Choices?

More Info:

Looker Embedded Analytics

Analyst Reports:

2018 G2 Crowd Report for Embedded Analytics

Conferences:

JOIN: Looker's Annual User Conference

Request a Demo:

Proof of Concept