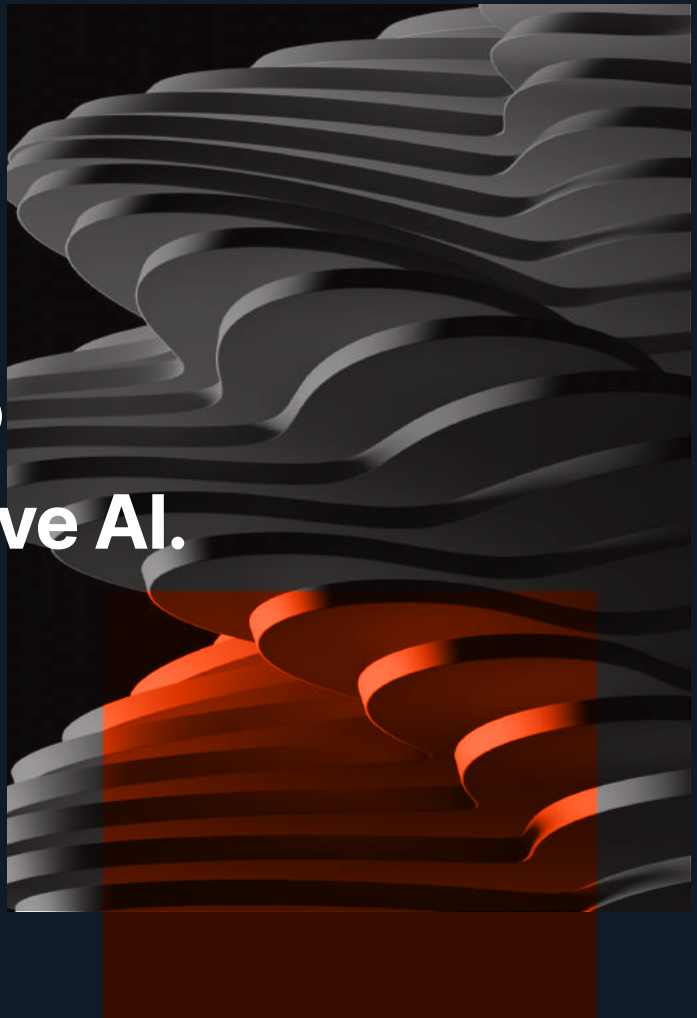
WHITEPAPER

Why Data Fabric is the only pathway to enterprise Generative AI.



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Introduction

Publicly accessible Generative AI platforms have radically transformed the business landscape in the short time since their 2022 launch. Already, McKinsey data shows that 60% of all AI-enabled organizations are using Generative AI platforms. What's more, businesses are investing more to catch up to firms with leading AI-based growth strategies.

Yet, the same McKinsey survey shows senior business leaders are struggling to fully capitalize on Generative AI capabilities. Despite calls from the rest of the C-suite to harness new tech investments and empower business users, CDOs face software with lax security controls and data governance measures as well as inaccurate outputs from low-quality or disconnected data sources within LLMs. As a result, CDOs are realizing that Generative AI on its own doesn't work.

Rather, they need a comprehensive solution that doesn't compromise on data security while also delivering reliable business intelligence that enables productivity increases and fast ROI. That's why, in this whitepaper, we're looking at how organizations can embrace AI solutions safely through active metadata management and data fabric architecture. Read on to learn more and discover the future of enterprise Generative AI adoption.

60% of all AI-enabled organizations are using Generative AI platforms.

The state of AI in 2023: Generative AI's breskthrough year. McKinsey. August 1, 2023

4 ways data fabric enables easier Generative AI adoption

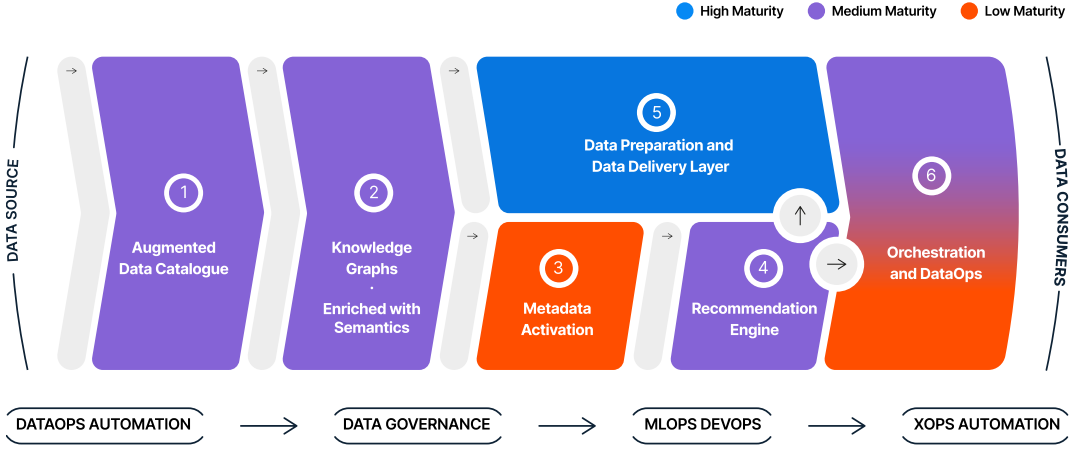
A data fabric is an innovative and flexible data architecture that uses intelligent software to integrate, standardize and automate data access, and management processes in real-time.

Data fabric architecture ensures firms can access all their data in a single, secure, and simplified environment. This way, business users can easily work across hybrid and multi-cloud environments and make more accurate and reliable decisions based on high-quality, high-fidelity information. As such, Gartner identified data fabric architecture as the future of Generative AI adoption.

Users can easily work across hybrid and multi-cloud environments and make more accurate and reliable decisions based on high-quality, high-fidelity information.

To understand how, here are five ways data fabric enables more scalability and security:

Gartner



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Stratio Generative AI

Stratio Data Fabric product is 4 years ahead of the market

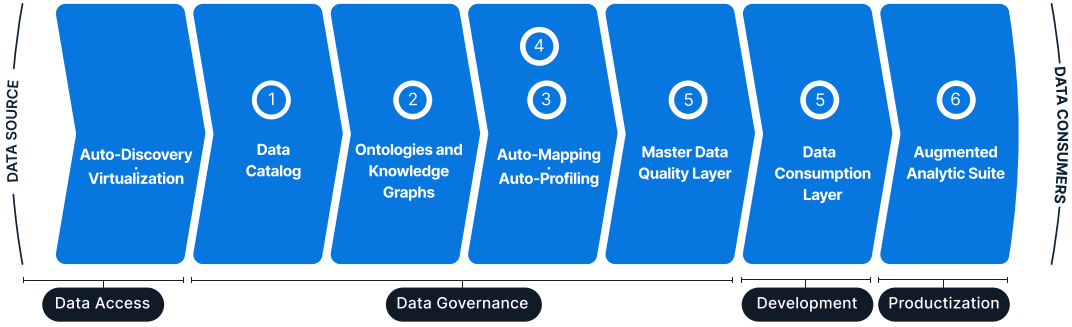

Figure 1.
Stratio Generative AI Data Fabric components maturity level. Source: Gartner and Stratio BD

1. Data fabric enriches your business intelligence

By integrating and working with your data at its source, data fabric retains and enriches the enterprise context embedded within your data. This contrasts to more traditional data architectures, like data warehouses, marts, or lakes, where data is often transformed after extraction.

Unfortunately, data teams and business users can unwittingly degrade the quality of their data by “shedding” metadata during these transformations and create inaccurate BI reports from incomplete datasets. As a result, you gain an imperfect picture of your performance since your business intelligence lacks nuance and completeness.

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Instead, a Generative AI data fabric uses metadata to automatically map the semantic relationships between your data sources, allowing you to gather high-quality, high-fidelity data every time.

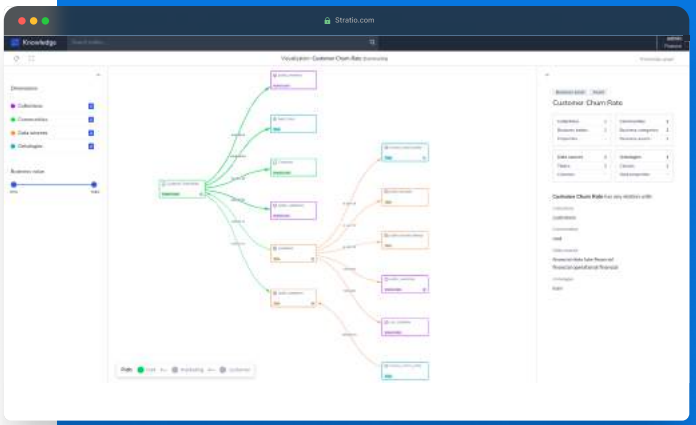


Figure 2: Map semantic relationships automatically with Stratio Generative AI Data Fabric

2. Data fabric enhances your data governance

Generative AI data fabric can also automatically distinguish which data to use in its outputs. More specifically, which data to avoid or anonymize (where relevant). With a decentralized data governance approach it may become challenging for organizations to actively enforce and monitor the efficacity of their data and policies, as the company's Chief Data Officer (CDO) must define and implement new data governance rules across multiple platforms (i.e., one for data security, another for metadata, architecture, data quality, and so on).

Actionable data governance, on the other hand, enhances a company's ability to take a proactive approach by focusing on automation. It centralizes data management operations, removes information from silos, and establishes real-time management policies across departments, enabling businesses to quickly implement updates and resolve issues with data quality.

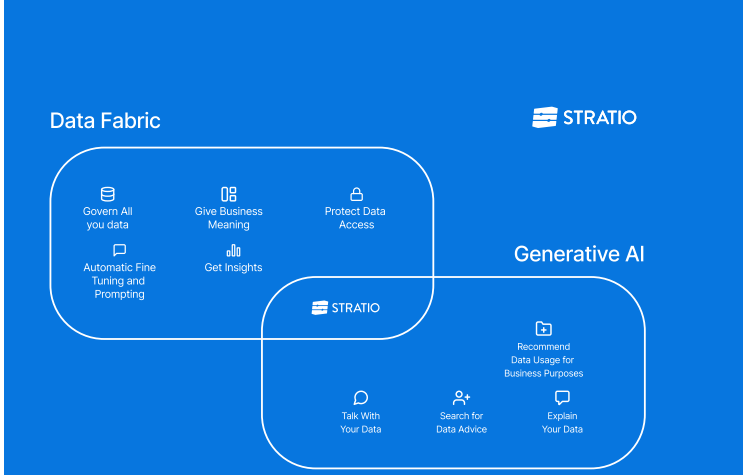


Figure 3.
Data Fabric ensures the availability of trusted data and Generative AI helps business users to obtain trusted insights.

Data fabric allows senior leaders to deploy Generative AI within enterprise use cases with more confidence. By deploying a data fabric, organizations can access granular security controls. This leaves leaders safe in the knowledge that proprietary or customer information won't make its way to competitors, threat actors, or incorrect users thanks to holistic, automated data governance features. Of course, security isn't the only concern within data governance. Generative AI-enabled data fabric can also make it easier to generate business glossaries, meaning organizations can build a validated store of institutional knowledge and professional best practices.

3. Data fabric strengthens LLMs

Additionally, data fabric can improve Generative AI predictions, helping to mitigate hallucinations. This phenomenon is where LLMs generate incorrect, nonsensical, or false text unexpectedly - particularly if the “temperature” of the model is too high, as it enables more novel, unpredictable outputs.

Here, metadata and the semantic ontologies, enabled via the data fabric architecture, act to “ground” the language model in reality, clearly defining what is and is not contained within the digital environment. As a result, data fabric can reduce performance errors.

At early stages, outputs that fail to meet users’ expectations can be reviewed by a data engineer and become a “challenger model,” reinforcing what the model should avoid.

Based on the recent benchmarking test, Stratio’s Semantic Data Layer improves LLM’s performance to reach of 99% accuracy. This allows employees to ask data-related questions in their natural language, and receive accurate answers in real time.

Exponential value steps

Why bother with the semantic layer and ontologies?

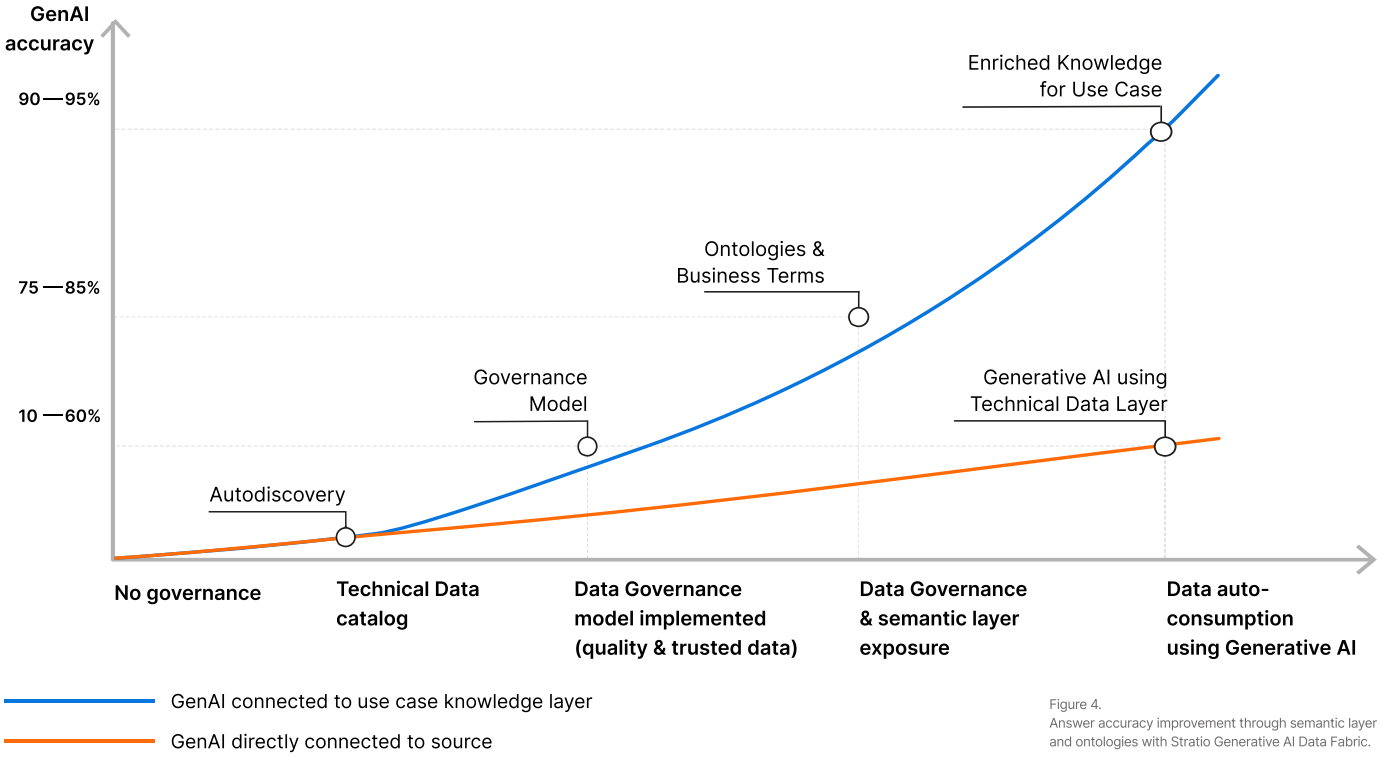
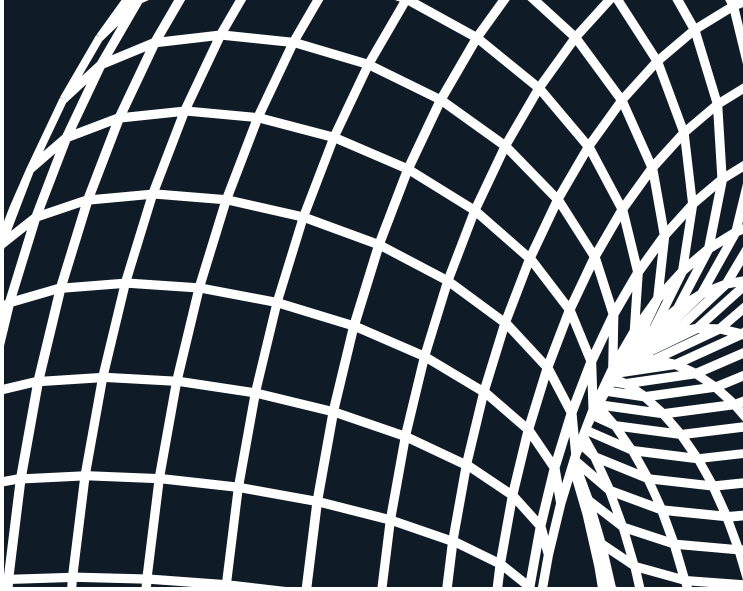


Figure 4.
Answer accuracy improvement through semantic layer and ontologies with Stratio Generative AI Data Fabric.

4. Data fabric increases your productivity

Finally, Generative AI data fabric is fast becoming the preferred interface for enterprise data. By enabling natural language processing, Generative AI data fabric democratizes data access: empowering both expert data teams and non-technical business users. In turn, business users gain productivity-enhancing strategic insights to accelerate their job performance.

Meanwhile, expert analysts and data scientists can save time from simple data access requests or pattern-recognition tasks and focus on more important business areas, like optimization, that enable revenue generation or lower expenditure. Crucially, this can be done without compromising on security or role-based access rules and via a self-learning engine of centralized, validated enterprise data.



Best of all, only data fabric can enable these productivity gains. Most other Generative AI solutions are single-applications, copilot style, meaning they can only improve productivity within a particular application. Others work to query cloud environments but encounter the same security concerns discussed earlier. Instead, data fabric architecture ensures that companies can harness Generative AI at the corporate level using their own data.

Stratio Generative AI Data Fabric

Two different but complimentary approaches to Generative AI deployment

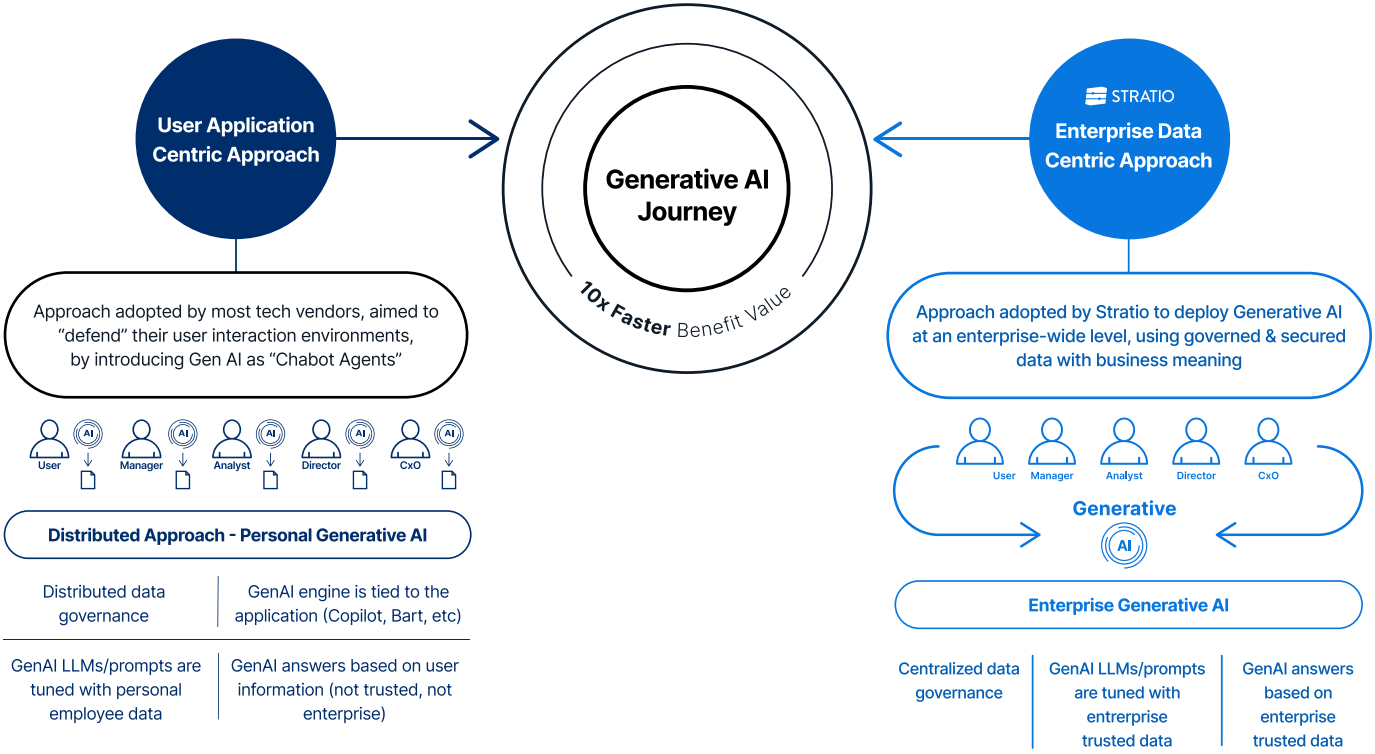


Figure 5. Two different Generative AI deployment approaches

Introducing
Stratio Generative AI Data Fabric
How does it work?

Generative AI Data Fabric for enterprises is a unified and secure business data layer that provides instant answers to the business and data teams.

It uses a proprietary, multi-engine LLM solution. Independent agents specialized in different enterprise areas (from SQL code construction to enterprise ontologies) act to improve the performance and accuracy of the system:

- Prompt answers are based on engine consensus, which helps improve the accuracy and quality of the outputs and mitigate hallucinations.

- Enterprise ontologies guide search queries by enhancing their accuracy and relevancy. What's more, they can even be customized to your organization's unique digital environment to deliver superior performance.

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During implementation, the Stratio Generative AI Data Fabric follows a five-stage modular process:

1. **Discovery:**
   AI-powered algorithms automatically discover and map data, improving compliance by removing data silos and centralizing the governance environment to ensure all of your data is treated the same way, with the same rules. It's never moved from the storage location as the product works with the metadata.

2. **Virtualization:**
   Enabling data access across on-prem / cloud environments in real-time and at source, so you don't lose meaning.

3. **Creating a data marketplace:**
   Empowering non-technical and business users to analyze and manipulate data without compromising on governance or security. This step can be skipped when organizations want to pursue generative AI interface for data questions and answers instead.

4. **Enabling AI:**
   AI is unleashed to populate your knowledge graph and refine your unique semantic ontology, enabling you to identify new business insights.

5. **Instant answers with Gen AI:**
   The final LLM layer is added, allowing business users to get instant answers with Generative AI and automate work in natural language.

Generative AI for Business

Use Generative AI without the data leaving the organisation

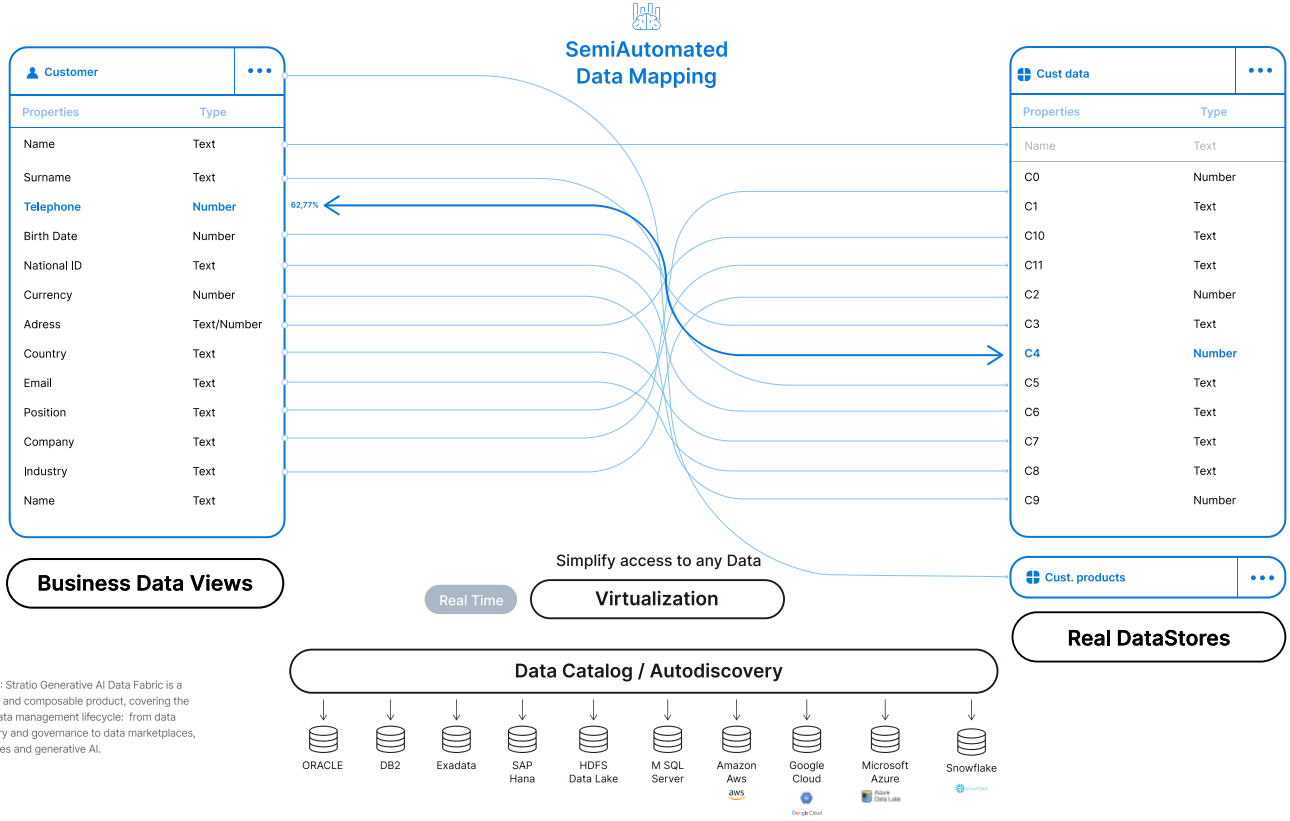
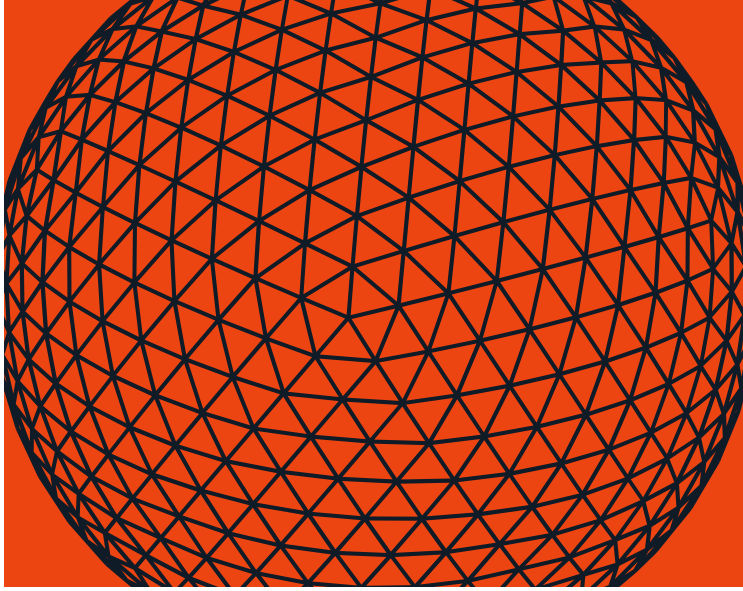


Figure 6: Stratio Generative AI Data Fabric is a modular and composable product, covering the entire data management lifecycle: from data discovery and governance to data marketplaces, ontologies and generative AI.

Benefits

Stratio Generative AI Data Fabric for enterprises is a holistic, yet composable solution, allowing you to access and give business context to the LLM with trusted enterprise data. Moreover, it creates a centralized environment for data governance. Users access the same solution, allowing you to apply consistent data access rules.

Stratio works with leading financial institutions. As a result, we're compliant with key regulations and industry best practices on data handling, including GDPR, ISO 20022, and the Data Management Book of Knowledge from DAMA.



Best of all, the Generative AI Data Fabric works across any cloud environment (AWS, Google Cloud or Microsoft Azure), meaning there's no vendor lock-in.

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Top customer use cases

Advanced BI analysis

Stratio Generative AI Data Fabric democratizes data access without compromising on cybersecurity by leveraging metadata sources and comprehensive knowledge graphs. As a result, users from all technical backgrounds can obtain high-quality, trusted data securely. You can connect structured data to our platform, ask the enterprise generative engine anything, and see results almost instantly.

So, BI analysts and other users no longer have to submit requests for data. Instead, everyone has access to the information they need at their fingertips.

Users from all technical backgrounds can obtain high-quality, trusted data securely.

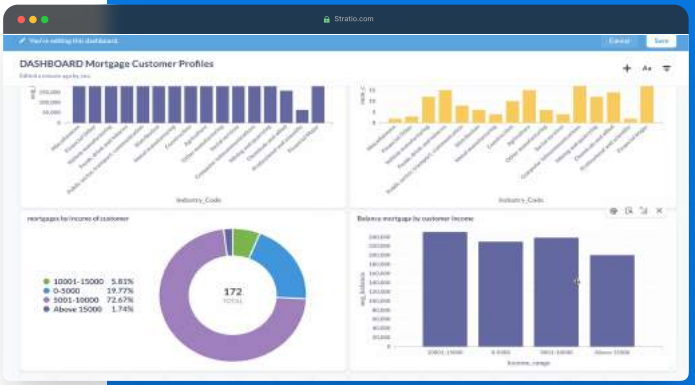

Figure 7: With Stratio Generative AI Data Fabric any user can turn the answers to their business questions into a dashboard while interacting with the product in natural language.

Top customer use cases

Documents knowledge

Senior leaders can also use Generative AI to generate summaries and answer questions about important documents. The Generative AI solution can work with most file types, including PDFs, presentations, documents, images, and more.

Similarly, Generative AI can support and automate reporting workloads, including regulation and compliance policies, sales reports, and white papers. As a result, end users can find answers within lengthy company policy documents and SLAs, as well as identify key trends within operational data.

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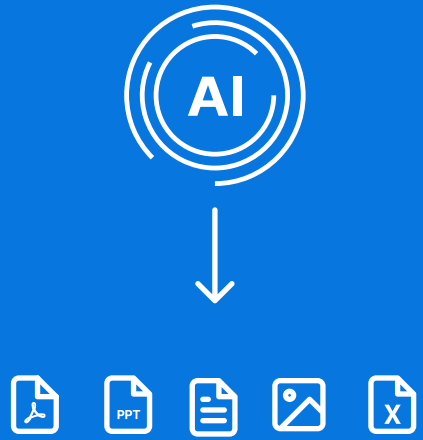
The Generative AI solution can work with most file types



PDFs, presentations, documents, images, and more

Top customer use cases

Blended approach

Stratio Generative AI Data Fabric can help organizations bridge both structured databases and unstructured file types. Thanks to the semantic relationships in structured data, combined with the context extracted from documents, we can provide more accurate and richer answers to end users.

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We can provide more accurate and richer answers to end users

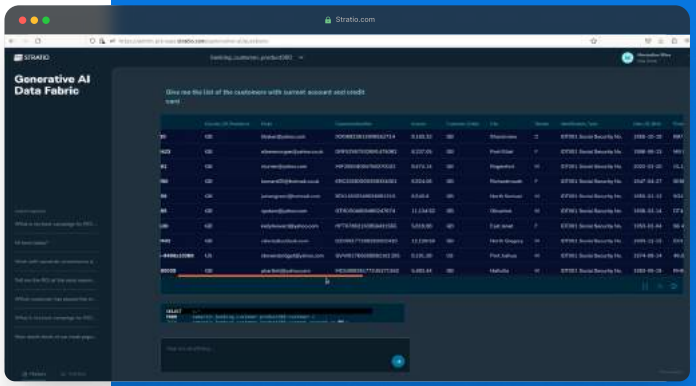


Figure 8: Stratio Generative AI interface where users can ask any business-related question and get secure and accurate answers with data governance and access rules applied automatically.

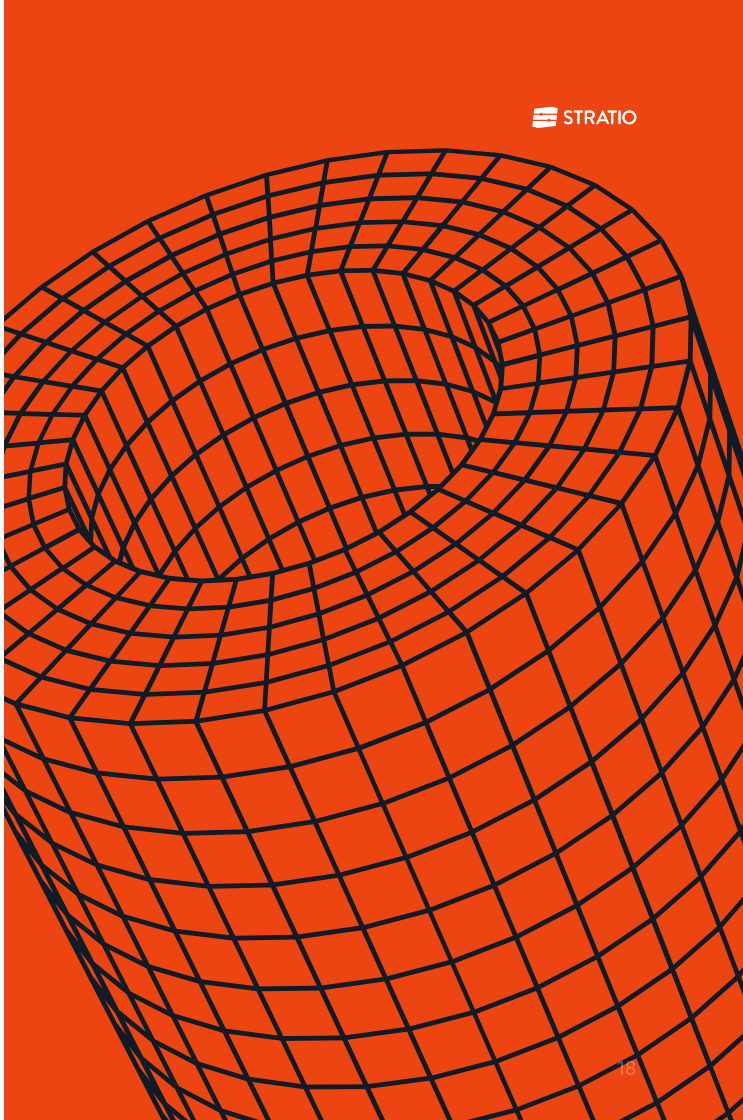
Key takeaways

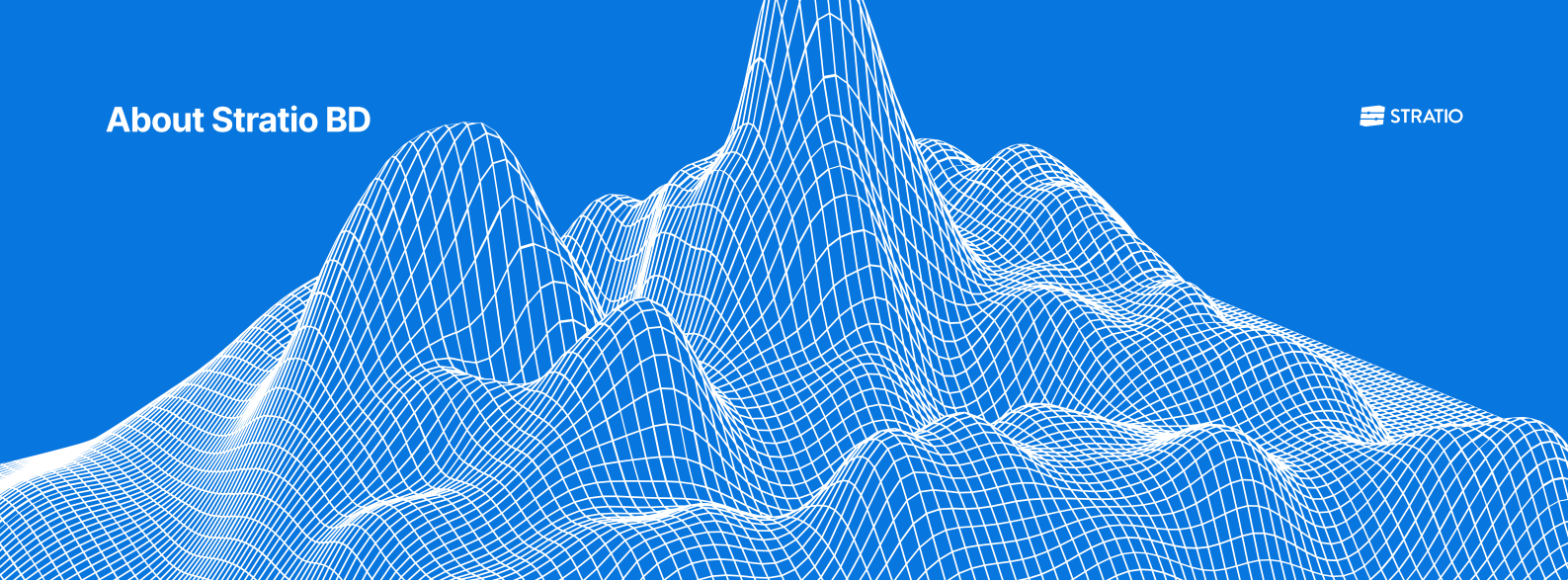
Generative AI solutions are redefining what enterprise productivity looks like as leading AI-enabled organizations are capitalizing on new heights of automation. **Therefore, firms must identify how to adopt Generative AI platforms without inviting unknown risks within their digital environment**. Specifically, unauthorized data access from lagging security controls.

Thankfully, **Generative AI Data Fabric architecture offers a solution** for senior business leaders. The flexible style of data storage and virtualization means businesses can enrich their strategic intelligence, streamline their cloud utilization, and increase productivity thanks to superior LLM performance and data governance controls.

Executive leaders must choose a provider with a reliable data fabric solution to fully leverage the value of their native metadata sources and in-house BI talent.

Businesses can enrich their strategic intelligence, streamline their cloud utilization, and increase productivity.





Stratio BD is one of the world's largest data & AI companies.

Its industry-leading Generative AI Data Fabric product enables companies to automatically discover their data, give it quality, business meaning and an easy way for users to benefit from it through a question-answer interface.

Intelligent, AI-enabled data governance is at the core of Stratio's data fabric product which provides granular security and robust regulatory compliance. Now, data experts and business users can make better and more informed decisions boosting their productivity x10.

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So, if you're ready to become a truly data-driven company and harness enhanced business intelligence using a Generative AI Data Fabric, get in touch today or request a live demo

Stratio.com