



The ultimate guide to SAP data integration

How to move and integrate SAP data into cloud-native systems for real-time analytical reporting.



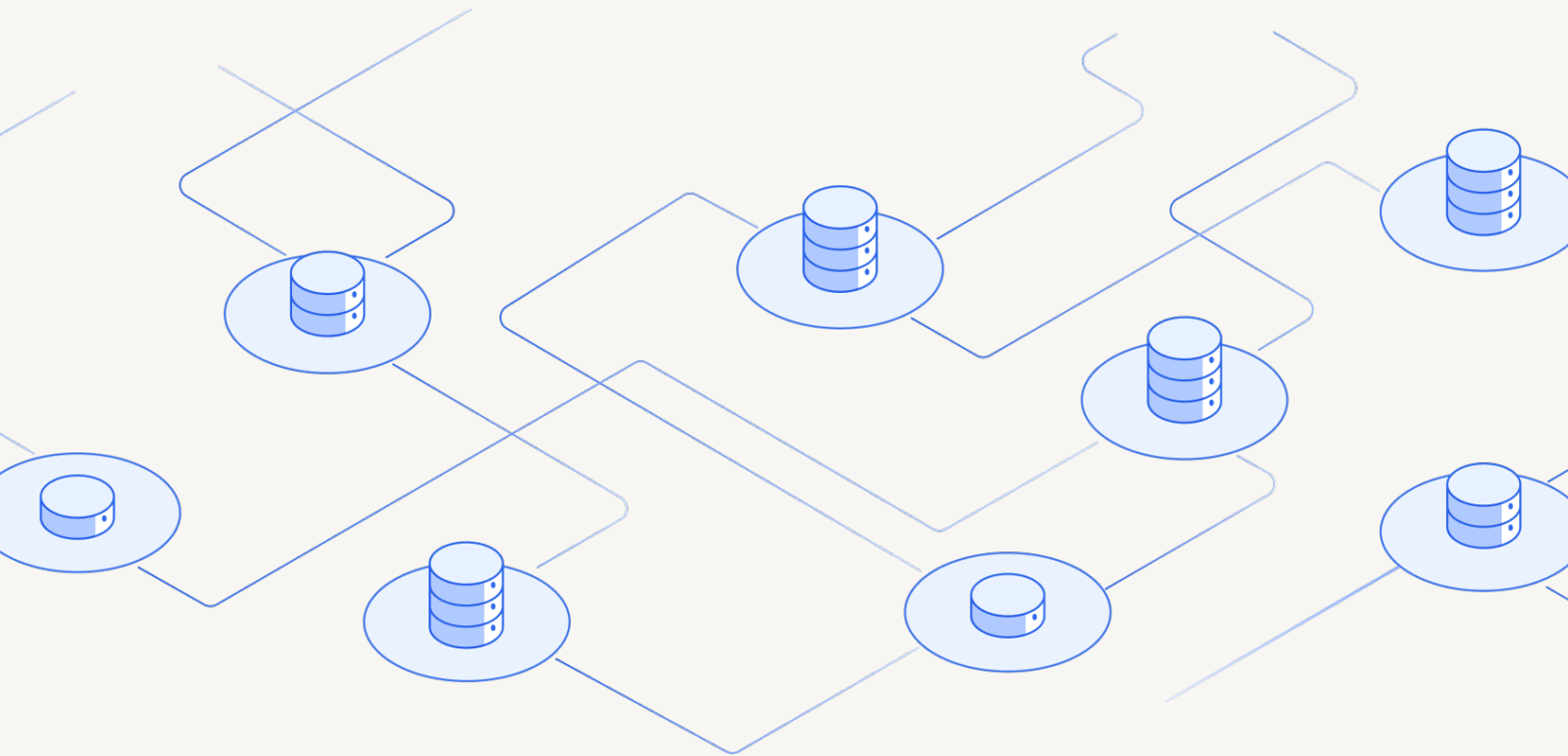
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Executive summary

SAP underpins the operations of the world's top enterprises, managing essential processes like finance, inventory, CRM and human capital management. Despite its extensive use by 99 of the top 100 global companies, integrating SAP data into cloud-native systems for real-time analytical reporting remains a complex and expensive challenge. Often, SAP data is restricted by licensing and trapped behind an application layer or infrastructure, compounded by the difficulty of navigating its vast database of over 150,000 tables. This results in limited operational agility and delays in decision-making due to outdated data.

This ebook explores the transformative potential of SAP data when effectively integrated with cloud-native systems, offering a roadmap for enterprises to enhance decision-making, operational efficiency and customer satisfaction.



The strategic value of SAP data

SAP ERP systems are pivotal in orchestrating core business processes, but unlocking their full potential requires overcoming substantial integration hurdles. These systems are often considered crucial to enterprise IT, containing invaluable data that can drive strategic decisions and operational improvements. Yet, without real-time access and effective integration strategies, businesses fail to leverage this asset to its fullest, missing out on critical insights that could propel their operations forward.



77%

of enterprises lack real-time access to ERP data, leading to poor business outcomes and lost revenue.

Source: Dimensional Research

Integrating SAP ERP data with cloud-native systems unlocks numerous **strategic benefits**:



Enhanced decision-making:

Centralizing SAP data with other business intelligence sources provides a comprehensive view that supports more informed decision-making across all levels of the organization.



Increased productivity:

By automating data extraction and integration processes, companies free up valuable resources, allowing teams to focus on strategic tasks rather than manual data handling.



Agility and competitive

advantage: Real-time insights enable businesses to respond swiftly to market changes, identify emerging opportunities and avoid potential pitfalls by adapting strategies promptly.



Personalized customer experiences:

A deeper understanding of customer data leads to more tailored products and services, enhancing customer engagement and loyalty.

Despite these advantages, many enterprises face **significant challenges** in SAP data integration:



Complexity of SAP systems: SAP ERP systems feature intricate architectures with extensive customization options, making data extraction a daunting task.



Impact on source systems: Effective integration requires minimal disruption to SAP operations, ensuring that core systems continue to run smoothly without performance degradation.



Volume and variety of data: SAP systems house vast amounts of data across numerous modules and functions, compounding the integration challenge.



Resource constraints: Developing and maintaining data pipelines drain resources, hindering new data integrations and access to operational data. Finding the right skilled resources is a challenge.



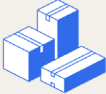
Licensing restrictions: SAP's strict licensing terms often limit how data can be accessed and used, adding another layer of complexity to integration efforts.

A global survey by Dimensional Research highlighted widespread issues in SAP data integration, with **99%** of businesses struggling with data flow, leading to delayed decisions and impacting core operations. Seventy-one percent of companies reported delayed decision-making and **69%** postponed data analysis due to these data challenges.

Applications and use cases for SAP data across industries

Integrating SAP data can transform operations across various sectors — from manufacturing to retail to finance — by enabling:

- ◆ **Real-time operational insights:** Up-to-date data improves supply chain management, dynamic pricing and fraud detection.
- ◆ **Predictive analytics:** Anticipate market demands and customer behavior, optimizing inventory and enhancing financial planning.

Industry	Use case
 Manufacturing	◆ Supply chain management ◆ Optimize inventory and order fulfillment ◆ Predictive and preventive maintenance
 Retail	◆ End-to-end visibility of inventory and goods movement across network ◆ Implement dynamic promotions and pricing ◆ Personalized customer experiences
 Finance	◆ Financial fraud detection and management ◆ Enhanced FP&A ◆ Personalized financial services marketing

Why choose Fivetran for SAP data integration

With 99% of businesses struggling to maintain a steady flow of SAP ERP data, the need for a robust solution is clear.

Fivetran simplifies SAP data integration, while adhering to licensing restrictions and complex data structures. Tailored for different SAP architectures, Fivetran facilitates efficient, secure and real-time data replication, empowering businesses to make quicker, informed decisions without the traditional overhead of manual integrations.

Our deep understanding of the SAP ecosystem has enabled us to develop unique features that alleviate traditional integration challenges. Fivetran's high-performance, low-impact change data capture (CDC) solutions offer a streamlined approach to handling data from SAP ECC and S/4HANA systems. This allows for continuous real-time data capture, minimizing latency and system footprint. Businesses can make quicker, more informed decisions without the overhead of manual integrations.

Key advantages of Fivetran include:

- ◆ **Real-time data and insights:** Continuous high-volume data replication from multiple sources to your destination, ensuring up-to-date information for rapid business insights and decision-making.
- ◆ **Efficiency and cost-effectiveness:** Our solutions capture all SAP data changes with minimal latency and impact, reducing total ownership costs.
- ◆ **Robust security:** Certified for major security standards including SOC 1 & 2, ISO 27001, and PCI DSS, Fivetran ensures your data is protected with end-to-end encryption and comprehensive compliance measures.

Fivetran's suite of tools includes specialized connectors and features for license-compliant access and advanced data replication options for your SAP data. This comprehensive support streamlines the integration process from SAP to cloud storage, significantly reducing implementation times and allowing IT teams to focus on strategic initiatives rather than maintaining data pipelines.

Fivetran deployment options:

We offer both SaaS deployment and hybrid deployment options to meet your business needs for scalable, efficient and reliable data replication.

- ◆ **SaaS deployment:** The platform is hosted in Fivetran's secure cloud environment.
- ◆ **Hybrid deployment:** The platform is hosted in the cloud but data is processed in your secure environment.

Key technical features with both deployment options include:

- ◆ **Support for Runtime & Enterprise licenses:** Fivetran can connect to SAP's application layer on Oracle and HANA rather than directly accessing the database.
- ◆ **Special SAP data types & tables:** Handle cluster/pool tables, support long text, transforming SAP dates, loading CDS Views, SAP archiving support.
- ◆ **Fast application extraction:** Quickly replicate from the SAP application layer into Snowflake. SAP Rise & SAP HEC supported.
- ◆ **Direct and native integration:** From SAP ERP to your destination, whether it's data warehouse, data lake or another destination.

Enjoy these features along with enterprise grade security, support for high-volume throughput and an industry leading 99.9% uptime.



BUSINESS CHALLENGE

Cemex, a leading global construction materials company, needed to evolve how data was managed across its extensive network of over 1,800 facilities to achieve near real-time insights into its global sales and commercial operations. The company aimed to improve the scalability and flexibility of its data infrastructure, which was predominantly SAP-centric until 2017. They required a system that could handle a diverse range of data — from IoT sensors to supply chain information — and support advanced AI/ML models, all while shifting from daily batch-based data replication to more frequent updates.

KEY OUTCOMES USING FIVETRAN:

By integrating Fivetran into their data ecosystem, Cemex dramatically transformed their data management capabilities:

- ◆ Rapid integration of over 4,000 SAP tables, facilitating real-time data streaming, processing, and alerting.
- ◆ Reduction of data processing time from weeks to near real-time, enabling quick response to market changes and better supply chain management.
- ◆ A 90% decrease in the time and effort required for manual data ingestion setup and maintenance.
- ◆ Enabled 25% of its global workforce, over 10,000 users, to utilize data daily for decision-making, enhancing overall operational efficiency.
- ◆ Development of a CO₂ data model to monitor and calculate emissions across all facilities, supporting Cemex's sustainability efforts and regulatory compliance.

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BUSINESS CHALLENGE

Pitney Bowes, a global technology company, faced significant challenges with its data management systems, impacting its ability to effectively manage e-commerce, shipping and mailing operations. The main issues included siloed data, lack of scalability and inefficient tech spending, which were exacerbated during the COVID pandemic as online shopping and parcel volumes increased tenfold. This led to delayed package deliveries, affecting service level agreements (SLAs) and increasing reputational risks. Their legacy data infrastructure struggled under the load of handling data operations for 800 million packages per day, resulting in critical delays in data availability for decision-making.

KEY OUTCOMES USING FIVETRAN:

Implementing Fivetran and Snowflake transformed Pitney Bowes' data infrastructure, leading to several significant outcomes:

- ◆ **Efficiency in data handling:** Fivetran optimized data processes by replacing custom batch scripts and ETL processes, reducing the time for batch loads significantly (from 31 hours to under two hours for one, and from days to under an hour for another).
- ◆ **Real-time data access:** The integration enabled real-time data delivery across all facilities, vehicles and parcels, which was crucial for operational efficiency and meeting SLAs.
- ◆ **Predictive analytics and operational dashboards:** Fivetran facilitated the creation of predictive dashboards that improved labor scheduling, parcel volume handling and delivery estimations. This helped mitigate risks and improve delivery accuracy to 93%.
- ◆ **New revenue streams:** The improved data capabilities allowed Pitney Bowes to launch a "Guaranteed Delivery" program, leveraging predictive insights to provide delivery assurances and spot potential churn behaviors early.

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BUSINESS CHALLENGE

Gill Capital, a prominent retail leader in Southeast Asia, faced significant challenges in consolidating data across its various global brands, such as H&M, COS, Alo Yoga and The Hershey Company. The company aimed to track end-to-end sales and supply chain operations efficiently, especially during peak seasons like Black Friday and year-end sales. However, extracting data from their core ERP system, SAP, was complex and challenging due to its rigid structure. Business users were heavily dependent on SAP's internal BI tools and engaged in laborious manual data manipulation in Excel, which was time-consuming and prone to errors.

KEY OUTCOMES USING FIVETRAN:

With the integration of Fivetran and Google Cloud's BigQuery, Gill Capital overcame its data integration challenges, leading to several significant outcomes:

- ◆ **Real-time data access and reporting:** Post Fivetran deployment, Gill Capital achieved near real-time access to sales data — updated every 5 minutes — and gained end-to-end visibility of inventory levels and movement of goods across stores and online platforms. This was pivotal during Black Friday 2023, where the company saw a 32% increase in total sales year-over-year, and online sales more than doubled.
- ◆ **Efficiency and productivity gains:** The use of Fivetran led to substantial productivity improvements, saving 90 hours per week, which translates to 4,680 hours annually. This allowed the data team to shift focus from manual data handling to more strategic activities such as business modeling and data engineering.
- ◆ **Power AI applications:** With the successful implementation of their modern data architecture, Gill Capital plans to further leverage Fivetran to integrate customer data from various touchpoints into BigQuery. This integration is expected to power predictive modeling and AI-driven applications, enhancing personalized customer interactions and operational efficiencies.

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Transforming business with SAP data integration

Fivetran provides a comprehensive, high-performance solution for SAP data integration, enabling businesses to shift from managing data pipelines to unlocking valuable insights and driving significant business outcomes.

[Sign up for a 14-day free trial of Fivetran](#)

[Book a live demo →](#)



Fivetran, the global leader in data movement, helps customers use their data to power everything from AI applications and ML models, to predictive analytics and operational workloads. The Fivetran platform reliably and securely centralizes data from hundreds of SaaS applications and databases into any cloud destination — whether deployed on-premises, in the cloud or in a hybrid environment. Thousands of global brands, including Autodesk, Condé Nast, JetBlue and Morgan Stanley, trust Fivetran to move their most valuable data assets to fuel analytics, drive operational efficiencies and power innovation.

For more info, visit [Fivetran.com](https://fivetran.com).



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