WHITEPAPER

No data left behind:

Don’t let the wrong tools disrupt your flow

Vendia

Executive Summary

Digital ecosystems are continuously evolving as enterprise leaders are under immense pressure to make agile, data-driven decisions. To meet new, ever-changing expectations, these leaders need immediate access to more data, at faster speeds, than ever before.

But as data architectures expand and diversify, finding a single tool that fits the full scope of data-sharing requirements often seems impossible. This is why enterprises have historically relied on a combination of tools, such as ETL/ELT, reverse ETL, iPaaS, and ESB solutions, to move data from one system to another.

Even with the "SaaS-ification" of enterprise apps and the world of shadow IT, a click-and-connect way of integrating two SaaS apps still doesn't solve the problem, especially when these SaaS apps need to talk to more than one app. Imagine a world where one app integrates with two or more apps, sharing slightly different data models at different frequencies. Due to the stateless nature of this kind of data sharing, the likelihood of each app getting out of sync with the others in the ecosystem is high.

$15M

Lost every year on average

per company, because of poor data quality

Yet despite rapidly growing IT landscapes, these same tools remain singularly focused on improving specific endpoints instead of addressing the bigger, more complex data picture. Rather than eliminate existing gaps between distributed data sources, tech stacks, and multiple stakeholders, a wide net of limited data-sharing tools only makes the gaps grow even wider.

Enterprise leaders need to do more than move and share data. They need to act on insights in real-time. Enter Vendia—a collective data intelligence platform that unifies data across mixed tech stacks, parties, and geographies, both inside and outside of the organization, for a seamless flow of data throughout the digital ecosystem at all times—all in a stateful and harmonized fashion.

How do you move your data today?

With the challenges organizations face in sharing different types of data from various sources across multiple partners, business and IT leaders need to consider how data systems connect, how to resolve and reconcile data quickly and accurately, and how to reduce the difficulty of integrating these systems. The goal is to achieve data synchronization across different applications and partners so that all operational and analytical systems can move forward with a unified view of the data and insights.

The solutions currently in use today to move data across the ecosystem fall into two categories: **operational data sharing and analytics data sharing tools.** While both sides claim to deliver real-time operational data and real-time analytics, not one tool has been able to connect the two seamlessly in a stateful fashion. But, real-time data synchronization is more attainable today than you think.

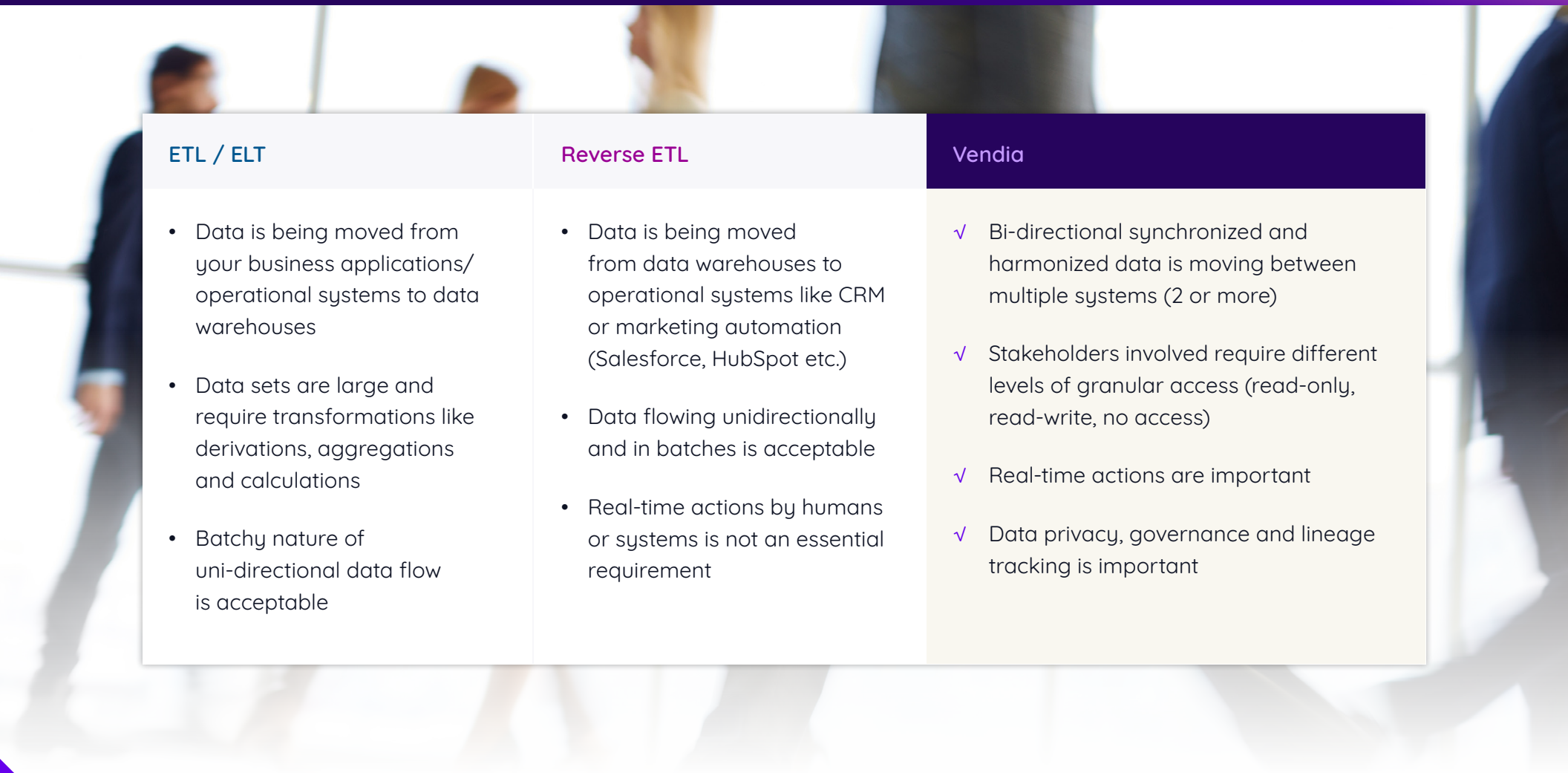
Integrations for operational and analytical systems

ETL / ELT / Reverse ETL tools (data transformation)

ETL (Extract, Transform, Load) and **ELT** (Extract, Load, Transform) are two common approaches in data integration. While both tools can move data from a business application to a data warehouse, the difference lies in the sequence of actions. The process of ETL involves transforming data on a separate processing server before transferring it to the data warehouse. In the case of an ELT tool, data transformations are performed once the data is in the data warehouse or lake, eliminating the need for staging processes. It is also generally viewed as a more modern framework.

However, ETL and ELT tools are not bi-directional. Moving the data back from a warehouse to your business application would require another data transformation process. **Reverse ETL** tools take clean and processed data from a data warehouse to business applications like "Salesforce for CRM" or "HubSpot for Marketing Automation" to create a unified view of the lead, prospect or customer.

With these data transformation tools, connecting data warehouses to an organization's CRM, Marketing Automation or ERP would look something like this:



ETL / ELT	Reverse ETL	Vendia
• Data is being moved from your business applications/ operational systems to data warehouses	• Data is being moved from data warehouses to operational systems like CRM or marketing automation (Salesforce, HubSpot etc.)	√ Bi-directional synchronized and harmonized data is moving between multiple systems (2 or more)
• Data sets are large and require transformations like derivations, aggregations and calculations	• Data flowing unidirectionally and in batches is acceptable	√ Stakeholders involved require different levels of granular access (read-only, read-write, no access)
• Batchy nature of uni-directional data flow is acceptable	• Real-time actions by humans or systems is not an essential requirement	√ Real-time actions are important
		√ Data privacy, governance and lineage tracking is important

ETL, ELT and Reverse ETL tools provide organizations with insights based on distinct operational processes. However, these tools fall short in delivering synchronized data across your stack. The transformations, deduplication, and calculation processes result in a lag in your data, meaning what you see is often days behind.

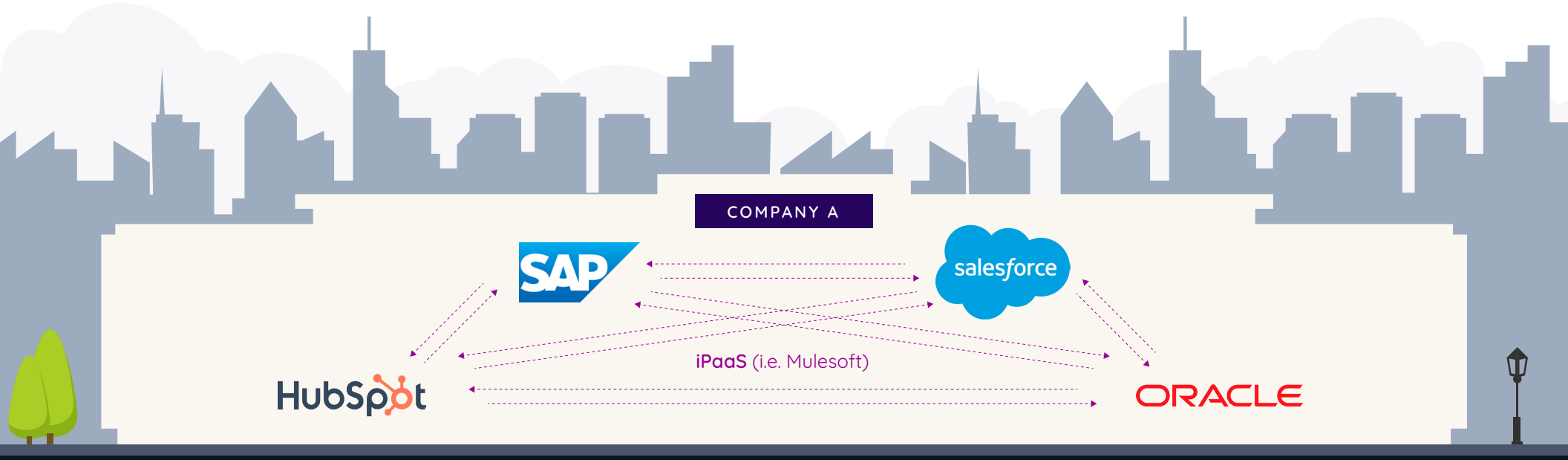
Vendia can slot in nicely within your data transformation workflows by delivering bi-directional data synchronization, agnostic of data type.

Integrations for operational systems

ESB & iPaaS solutions

An **ESB** (Enterprise Service Bus) is fundamentally a data architecture. It's a set of rules for integrating a set of applications. Ideal for transmitting small amounts of data between applications, ESB can handle multiple protocols for moving data from one application to the next. The ESB functions as the center of the architecture, allowing smooth communication across various services, message routing, transformation, and other tasks. Often on-prem, ESB architecture works best for local and legacy applications.

iPaaS (Integration platform as a service) is a vendor-managed cloud service with a suite of automated tools that integrate software applications deployed in different environments. Large businesses that run enterprise-level systems often use iPaaS to ensure data flow across various services, applications, and sources that live on-premises and in public and private clouds.

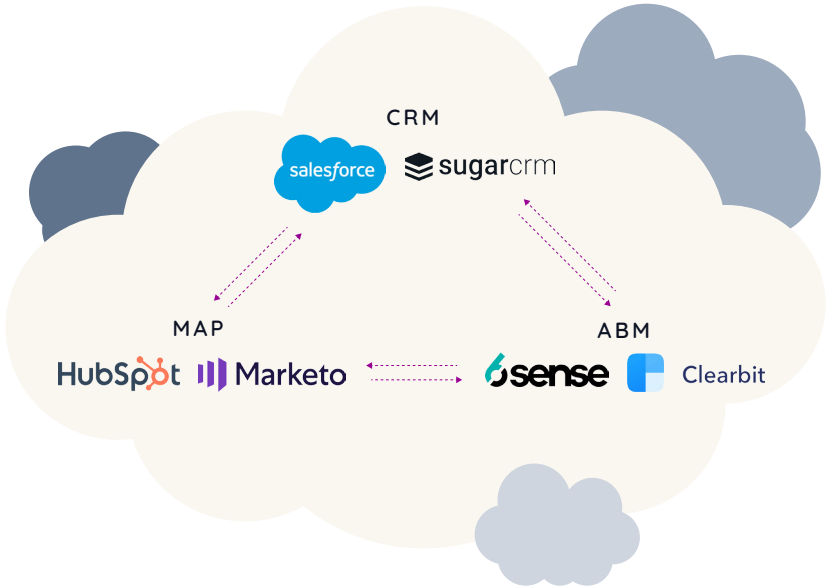


Integrations for operational systems (cont.)

Cloud app-to-app data integration

Today's SaaS apps allow a click-and-connect approach to various other apps in the functional ecosystem. For example, marketing automation tools like HubSpot, Marketo, and Pardot can connect to multiple **ABM** tools like 6Sense and Clearbit and **CRM** tools like Salesforce, SugarCRM, and more.

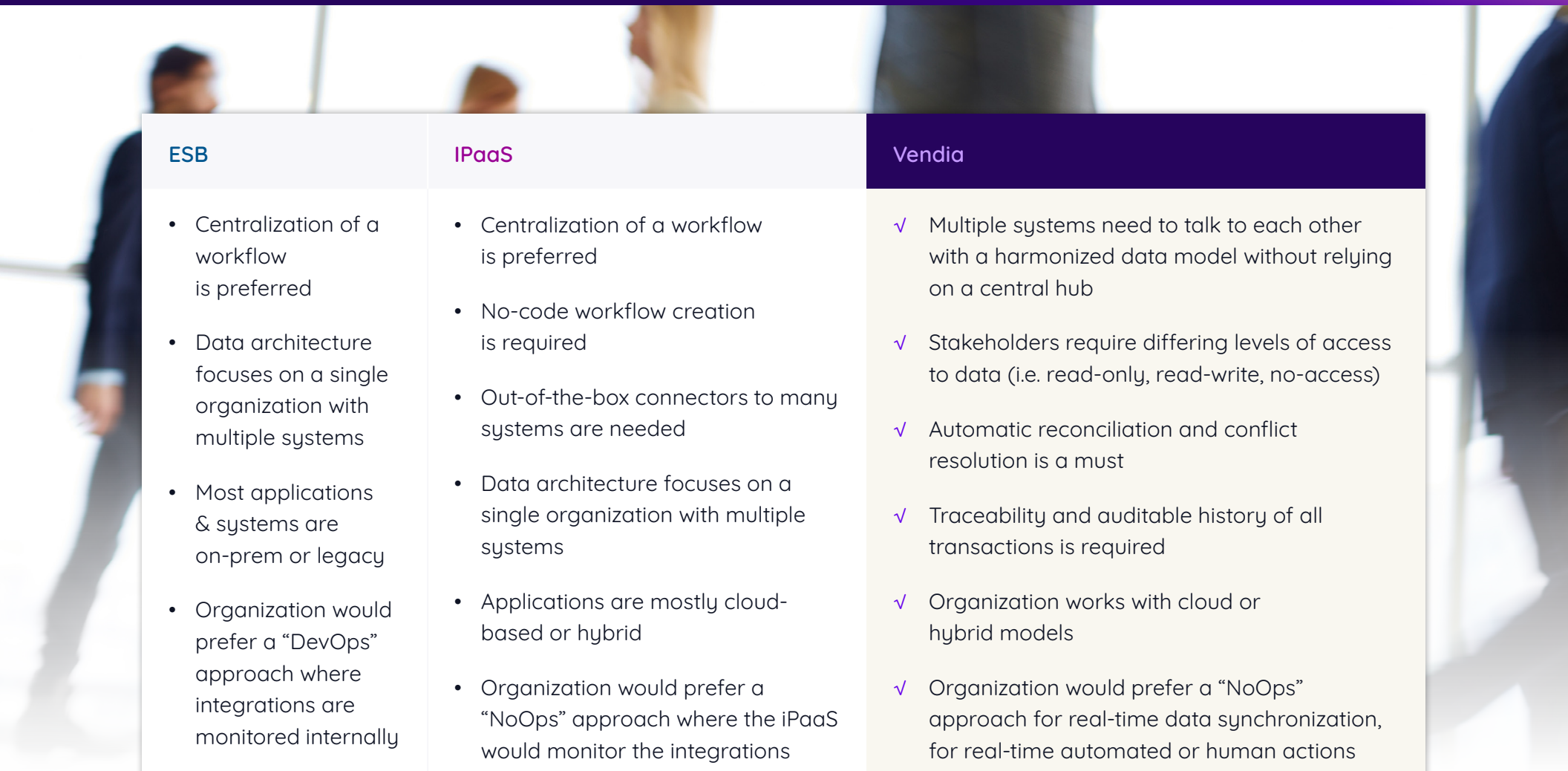
At the surface level, this type of solution seems quick and simple. However, these app-to-app connections only consider the source and destination system and their specific data models instead of holistically looking at the ecosystem -in this case, the world of revenue operations or RevOps. The same is true for other functions like HR, Finance, and Supply Chain, to name a few.



Relying on these app-to-app connectors means that each new application introduced to your ecosystem implies more connectors to add and maintain. If we were to add another application to the ecosystem illustrated here, we would have **12 (or 6 bi-directional) paths** to create, monitor and maintain. If we were to add another, the pathway count would rise to **20 (or 10 bi-directional) paths**. The problem can be illustrated by this formula:

$$n(n - 1)$$ **Where n is your number of applications

But what if you could use a universal solution to connect and integrate all of these things ONCE? That's the magic of Vendia, allowing organizations to reduce the toil and complexity of maintaining an expansive ecosystem, while ensuring the data is securely shared and delivered in real-time.



ESB	IPaaS	Vendia
• Centralization of a workflow is preferred • Data architecture focuses on a single organization with multiple systems • Most applications & systems are on-prem or legacy • Organization would prefer a “DevOps” approach where integrations are monitored internally	• Centralization of a workflow is preferred • No-code workflow creation is required • Out-of-the-box connectors to many systems are needed • Data architecture focuses on a single organization with multiple systems • Applications are mostly cloud-based or hybrid • Organization would prefer a “NoOps” approach where the iPaaS would monitor the integrations	√ Multiple systems need to talk to each other with a harmonized data model without relying on a central hub √ Stakeholders require differing levels of access to data (i.e. read-only, read-write, no-access) √ Automatic reconciliation and conflict resolution is a must √ Traceability and auditable history of all transactions is required √ Organization works with cloud or hybrid models √ Organization would prefer a “NoOps” approach for real-time data synchronization, for real-time automated or human actions

While ESB and iPaaS have different management and infrastructure, these solutions help organizations connect various business applications to build smooth business workflows.

However, these solutions cannot provide data synchronization or real-time updates to ensure consistency. Additionally, solutions like these lack the auditable history and traceability required to guarantee the integrity or truthfulness of the data—**all of which Vendia can offer when integrated into an iPaaS workflow.**

EDI or SFTP for data transfer across partners and stakeholders

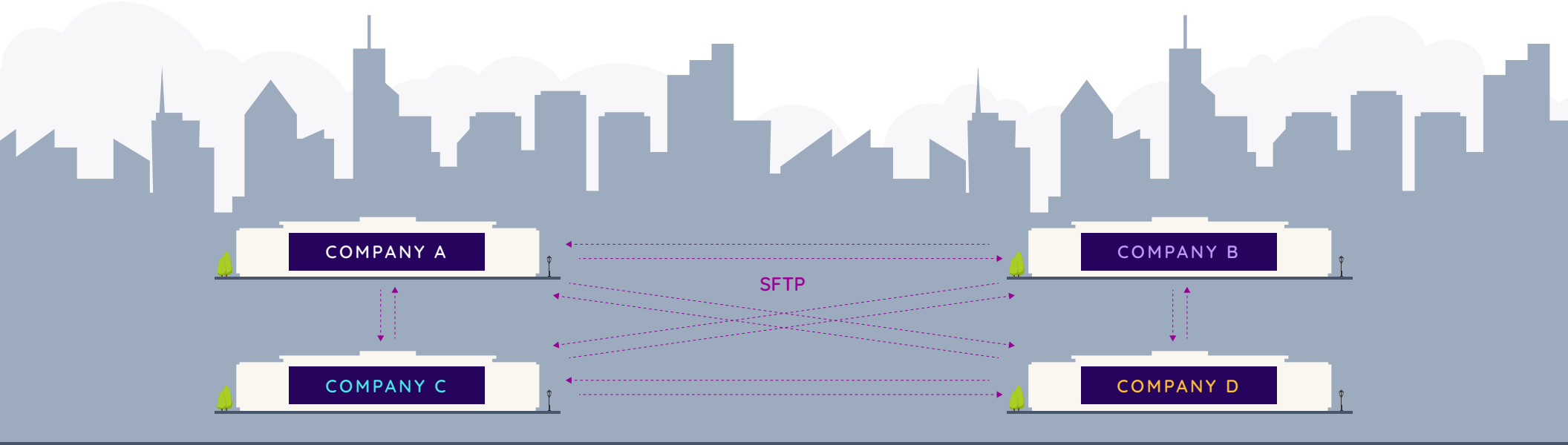
For data sharing beyond a single organization, most companies would rely on data transfer using particular protocols.

EDI (Electronic Data Interchange) is the exchange of data electronically between organizations across many industries. Before the file exchange, partners must agree on a standard, document and version to be sent. The data is then translated to that format and exchanged between different parties.

SFTP (Secure File Transfer Protocol) allows organizations to securely access, transfer and manage large files and sensitive data with the help of encryption.

While EDI or SFTP easily replaces outdated cross-organization communications like email, fax, mail, and other obsolete methods, a gap exists in how we simplify how data moves within and outside an organization's four walls. EDI or SFTP usually requires a higher maintenance cost for batched, uni-directional data transfer. As a result, data synchronization is not achieved, and a lot of context is lost when specific protocols are applied.

Vendia seamlessly extends past an organization's four walls, allowing bi-directional, synchronized and contextual data sharing, without the strain of additional resources or cost.



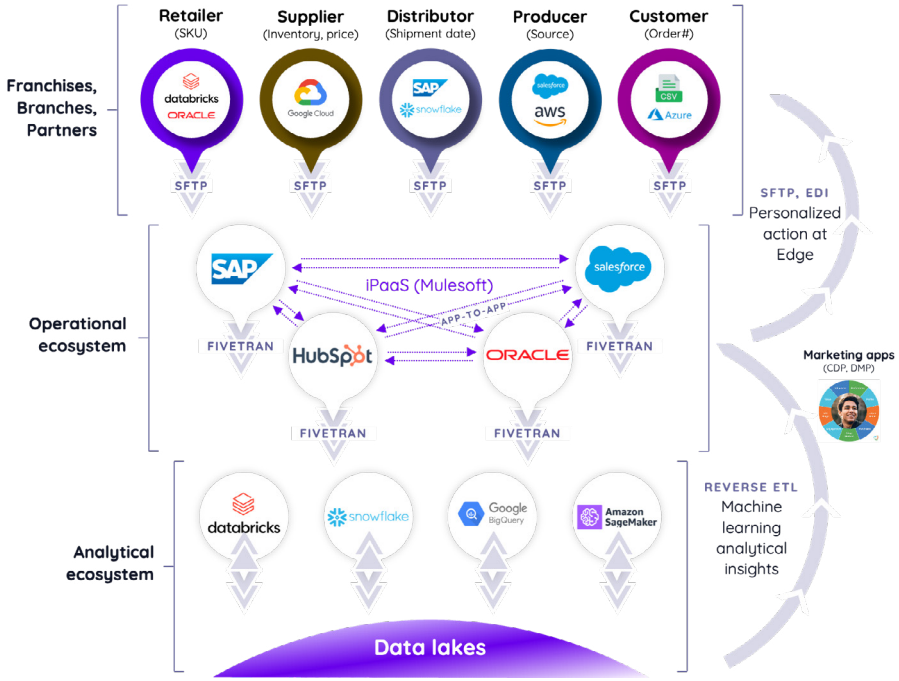
Connecting data ecosystems using existing data tools

End-point solutions that slow down and disrupt your data processes, underdelivering on activating data insights

Most organizations today deal with data sprawl, often described as the accumulation of vast amounts of data by organizations to the point that they no longer know what data they have and what happens to it. As a result, SaaS tools have sprung up with the hopes of alleviating data sprawl, ultimately leading to tool sprawl.

Unfortunately, the scores of data-sharing solutions still have not delivered on the promise of "real-time data everywhere." The tools and solutions currently in the market are unidirectional, non-contextual, and don't allow stakeholders to trace the data lineage. The data architecture is stateless on the rare occasion that the tool can move data bi-directionally.

As a result, sharing data across multiple data applications—be it operational or analytical—requires various data integration tools. The connections get more complicated as more applications get added into the ecosystem, resulting in slower deployments and onboarding, along with errors and inconsistencies in data that could prove costly to your business.



Using these solutions present challenges:

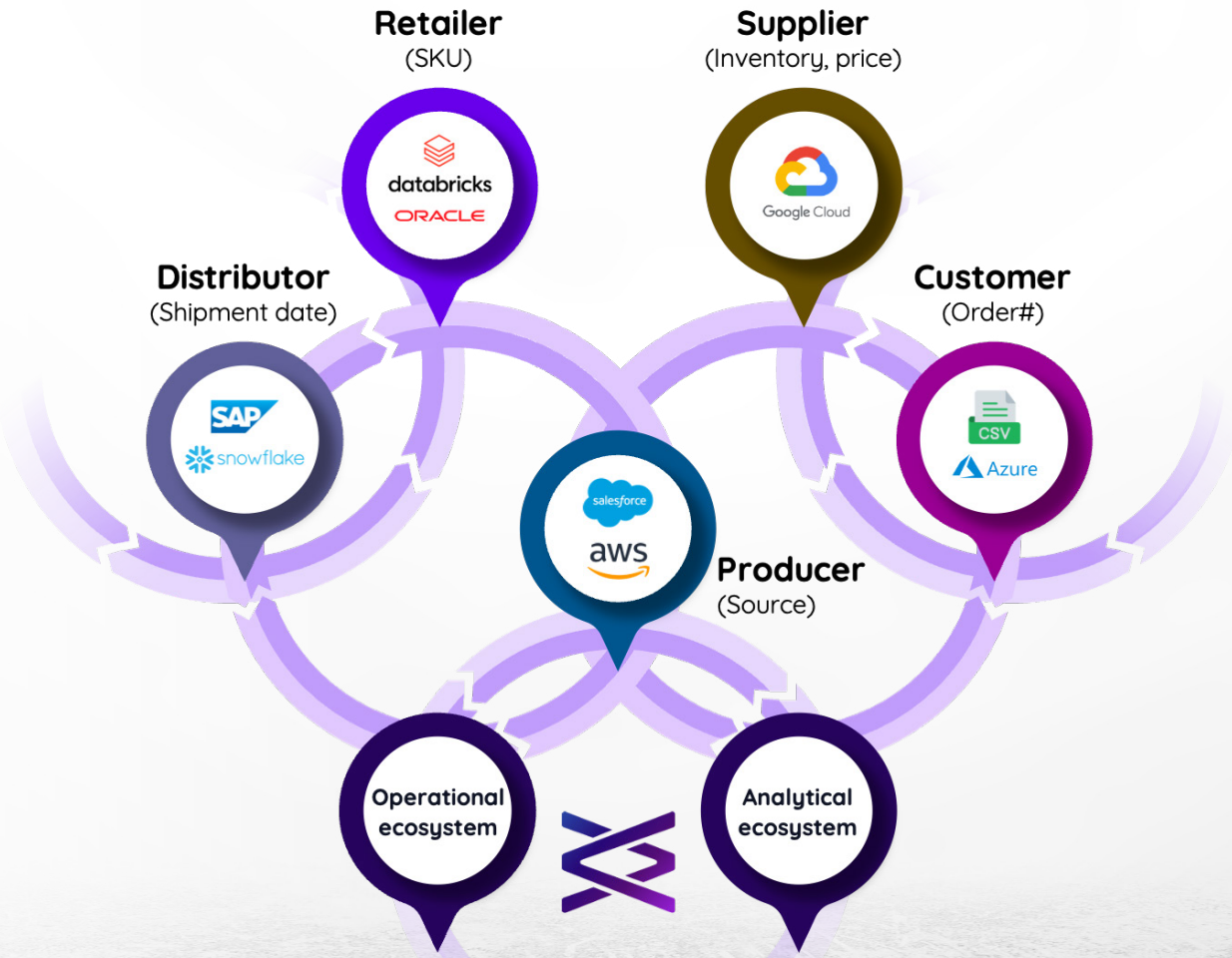
- **Lack** of control, governance, and compliance needed for data collaboration
- **Slower** processing times due to lack of automation and combined data transformation processes
- **Stale** data and information gaps
- **Inability** to trace and audit data to track what, who, and when data was changed
- **Error-prone** data transmission as a result of disparity in data formats which leads to increased costs & complex reconciliation challenges

Ultimately, the end-result of this ecosystem structure is poor data quality, hindering organizations from acting on critical insights, thereby affecting their bottom line. It's incredibly clear that **enterprises need agile, real-time, and trusted data sharing that allows data to flow uninterrupted throughout.**

Better with Vendia

Big-picture data architecture that consolidates your ecosystem

With Vendia, organizations can now eliminate data and tool sprawl across the data ecosystem. Not only that, Vendia helps enterprises bridge the gap between their operations and analytics worlds with a solution that provides stateful bi-directional data synchronization with the governance and trust enterprises seek to protect their data. In a data collaboration scenario across different partners and organizations, **we seamlessly fit** into your data-sharing workflows, complimenting the ETL, ELT, reverse ETL, iPaas, ESB tools, EDI, and SFTP that move data across operational apps, analytical engines, and more, while also solving for a harmonized and stateful data sharing between SaaS apps. Vendia does this within and outside your four walls of your organization, allowing organizations and their partners to collaborate in a real-time, trusted, and agile manner.



With Vendia, you get:

Automatic reconciliation

Maintain a shared and real-time source of truth inside and outside your organization to reduce discrepancies and conflicts caused by stale data

Bi-directional data-sharing

Stateful bi-directional data synchronization across your ecosystem that eliminates the need for end-point connectors

Low-code acceleration

Create a secure, enterprise-grade API, an auditable distributed ledger, and single-tenanted cloud accounts for you and your partners on a SOC 2 Type 2 accredited platform in 5 minutes

High availability

Maintain access to data across cloud and regions for all partners involved

Traceability & auditability

Easily see changes to data by who, from where, and when, as well as the link between an API operation and the end result

Data resilience

Quickly "catch up" after a network outage, and continue with business as usual without sacrificing data availability

Harnessing the power of distributed ledger technology, Vendia enables you to **effortlessly automate your data workflows while obtaining real-time responses**, making it the ultimate source of data visibility and insights to achieve high-priority business goals and outcomes.

Ready to unchain your data?

Request a demo today.

Check out our blog to learn more about how we're changing the data collaboration game.

About Vendia

Vendia is the future of collective data intelligence, combining smart APIs, databases, and distributed ledger technology inside a single platform. Vendia's data automation cloud makes it easy to share data inside and outside of the organization in real time and with full visibility, governance, and control. Companies such as BMW, Delta Airlines, Resolution Life Insurance, and Fannie Mae use Vendia to automate contextual and compliant data flows between any-to-any systems for a harmonized, accurate view of data that unlocks speed, innovation, and cost savings. Learn more about us at Vendia.com and #UnchainYourData with Vendia.

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