

Activate Your Data Warehouse With Reverse ETL

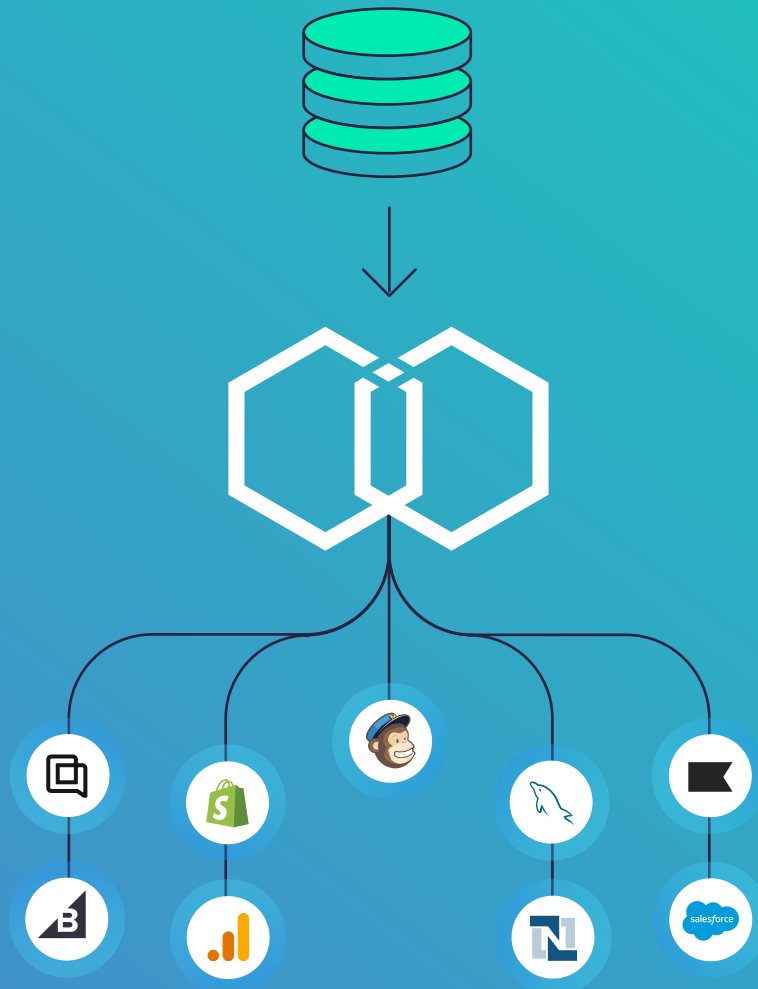


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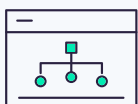
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01

INTRODUCTION

Here are five facts about reversing the ETL process for Ecommerce retailers:

1



Traditional ETL extracts data from a source, transforms that data into the proper format for data analysis, and loads it into a data warehouse like Snowflake or Amazon Redshift. Reverse ETL, on the other hand, moves data from a warehouse to a business application.

2



By reversing the ETL process, Ecommerce teams can access data insights in the software tools they use to execute day-to-day tasks instead of learning how to use a new BI tool.

3



Reverse ETL can improve employee productivity, marketing, and the customer experience.

4



Reverse ETL challenges include data governance, data loss, and data quality. A data warehousing integration solution can solve these problems and allow data to flow seamlessly from a warehouse to a business application.





Integrate.io is a data warehousing integration platform that performs reverse ETL without lots of code or data engineering. Its out-of-the-box connectors sync with major data warehouses such as Redshift, Microsoft Azure, and Google BigQuery.

Moving Ecommerce data to a data warehouse and then pushing that data to business intelligence (BI) tools provides you with valuable business insights. You can identify market trends, increase operational efficiency, forecast future business outcomes, and make smarter decisions. But what happens if your team doesn't know how to use a BI tool? Or prefers to analyze data in a system like Salesforce?

Reverse ETL is a relatively new data integration technique that moves data from a warehouse back to an application, allowing Ecommerce teams to continue to use the software they are already familiar with. In this whitepaper, learn more about activating your data warehouse for reverse ETL and how it can benefit your Ecommerce operations.

Integrate.io is a new data warehousing integration solution built for Ecommerce. It not only moves data to a warehouse via ETL and ELT but performs reverse ETL, helping Ecommerce teams access data in the apps they already use. Integrate.io has a simple philosophy: to remove the pain points associated with data integration. Its drag-and-drop click-and-point interface and no-code/low-code data connectors make it easy to move data from a warehouse to a third-party system of your choice. Why not email hello@integrate.io to learn more?

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WHAT IS ETL?

Before learning about reverse ETL, it's critical to define ETL, which remains the de-facto data integration method for many Ecommerce businesses.

ETL stands for [Extract, Transform, Load](#), and it's one of the most important concepts in data warehousing. Here's how it works:

1 PREDICTIVE ANALYSIS

ETL extracts data from a data source such as a relational database, transactional system, customer relationship management (CRM) system, enterprise resource planning (ERP) system, social media platform, SaaS tool, business application, or another Ecommerce platform.

2 MACHINE LEARNING

It transforms the data into the correct format for data analysis. Data cleansing might also take place, removing any data inaccuracies and ensuring it's ready for business intelligence activities.

2 CLUSTERING

It loads the data to a data warehouse such as Snowflake, Microsoft Azure, Amazon (AWS) Redshift, Google BigQuery, or PostgreSQL.

After completing this three-step process in the ETL pipeline, you can run data through BI tools such as Looker, Tableau, and Microsoft BI.



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WHAT IS ELT?

Many Ecommerce businesses confuse ETL for Extract, Load, Transfer (ELT), but these are two separate data integration methods.

Here's how ELT works:

1. ELT extracts data from a data source.
2. It loads the data sets to a target system.
3. Then it transforms the data into the appropriate format for analysis.

Now you can run data through BI tools and generate real-time insights into your Ecommerce operations.

ETL is best suited for structured and semi-structured data — data with a well-defined structure such as customer names, addresses, and email addresses on a CRM system.

ELT, on the other hand, is the best choice for unstructured data — videos, images, audio files, etc.

Ecommerce companies typically use ELT to load data to a data lake rather than a warehouse. However, you can still move data to a warehouse via Hadoop or a database management system (DBMS).

Read more: [ETL & Data Warehousing Explained: ETL Tool Basics](#)



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WHAT ARE THE CHALLENGES OF DATA INTEGRATION FOR ECOMMERCE?

ETL (and ELT) sound pretty straightforward, but many Ecommerce retailers struggle with these data integration methods.

That's because both techniques require complex [data pipelines](#) that move data from sources to a warehouse. These pipelines sometimes take many weeks to build and rely on complex coding and programming. If you lack data engineering skills, you might find it hard to create big data pipelines and transfer data to a warehouse of your choice, whether that's Snowflake, Redshift, or another system. You could hire a data engineer to do the hard work, but the cost of these professionals will eat into your data management budget.

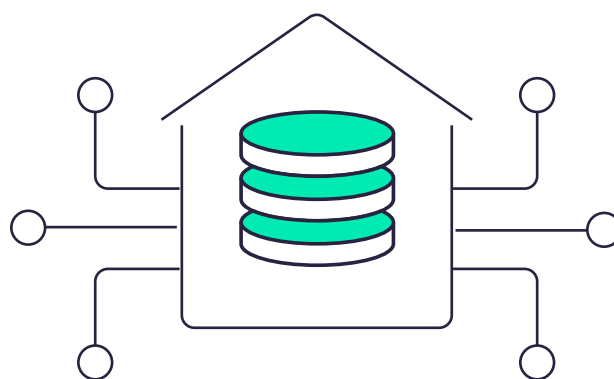
A data warehousing integration platform like Integrate.io reduces the complexities of data integration with out-of-the-box low-code/no-code connectors that sync with major warehouses. That means you can move data from one location to another without worrying about programming or data engineering. Integrate.io also has a click-and-point drag-and-drop interface, meaning anyone can use it regardless of their skill set. The platform can also move data to a data lake.



There are other problems when moving data to a warehouse via ETL or ELT. The first is data governance, which refers to processing sensitive data on enterprise systems like data warehouses. Not adhering to frameworks like [GDPR](#) and CCPA when handling customer data can result in expensive penalties and jeopardize a company's reputation.

Then there are issues with data quality and loss. Moving data between a source and a warehouse can degrade or corrupt data, further complicating the warehousing process. Accidentally losing or deleting data can also have significant ramifications for Ecommerce retailers.

Integrate.io solves these issues by adhering to all major data governance principles and ensuring data doesn't go missing or become unusable during the ETL and ELT processes.



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WHAT IS REVERSE ETL?

While ELT (and ETL) transfer data from sources into a target system like a data warehouse, reverse ETL does the opposite.

The data warehouse serves as the data source instead of the target system. Reverse ETL works like this:

- It extracts analytical data from a warehouse such as Snowflake, Amazon Redshift, or Google BigQuery.
- It transforms the data into the correct format for a business application (or operational system of record) like a CRM or Ecommerce platform.
- It loads the data to the business application.

At this point, Ecommerce teams can view analytical data inside a business application rather than a BI tool. That business application might be Salesforce, HubSpot, Shopify, Zendesk, or another Ecommerce platform. Unlike traditional ETL, reverse ETL transforms data for a business application inside the data warehouse.

Read more: [How Does ETL Work?](#)

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WHAT ARE THE BENEFITS OF REVERSE ETL?

Reverse ETL lets your teams access up-to-date information in the business applications they already use.

By moving data from a warehouse to Salesforce, for example, employees can uncover actionable data inside Salesforce without learning how to use a BI tool. In other words, reverse ETL simplifies your data management strategy.

Here are some of the benefits of using this data integration method:

Improve Employee Productivity

Ecommerce teams will find it easier to access data through a business application rather than a BI tool. They can search for the data they require for sales, marketing, customer service, inventory, or other Ecommerce

processes and improve productivity in your organization. There's no need to switch between apps and software, allowing Ecommerce employees to get on with their work and do their jobs more successfully.

Improve Customer Experience

BI tools like Looker and Tableau might be useful for data analysis, but these platforms don't support customer-facing operations in an Ecommerce organization. By moving data from a warehouse to a business application like a CRM, Ecommerce employees can access data in a customer-orientated tool, helping them improve the customer experience.



Improve Marketing

Moving BI data to a marketing platform like HubSpot gives that data more context. You can access the information you need from within a marketing tool and use that information to target prospects and move potential customers through your pipelines.

Move Different Data Types to a Business Application

Reverse ETL is capable of moving structured and semi-structured data from a warehouse to a business application and unstructured data from a data lake to an application. Therefore, this data integration method gives Ecommerce retailers lots of flexibility when deciding which data types to operationalize.



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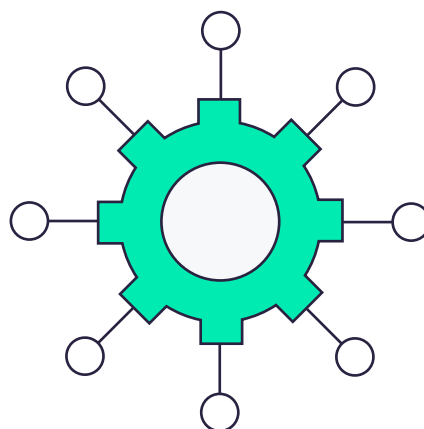
HOW REVERSE ETL REMOVES DATA SILOS

Most Ecommerce retailers move data to a warehouse to remove data silos in their organization.

Silos happen when enterprises have several software tools that don't communicate with each other, making data analysis a challenge. Many of these software tools use different file formats and types, further complicating analysis.

Moving data from siloed data sources to a warehouse provides retailers with a single source of truth (SSOT) for all the data in their organization. They can use the warehouse to centralize data sources and keep information in one place for more successful data analysis. However, another problem can occur at this point. When data exists in a warehouse, the warehouse itself can become a data silo. That's because the target system is now isolated from the sources that provided it with data.

Reverse ETL solves this problem by allowing data to flow from a warehouse to a business application. Teams can still view all the insights generated from data analysis but access them in the apps they already use. This process allows for better operational analytics, where teams access data insights through their regular workflows. Instead of comparing Salesforce customer data in a BI tool like Looker, for example, employees can engage with that customer data in Salesforce itself.



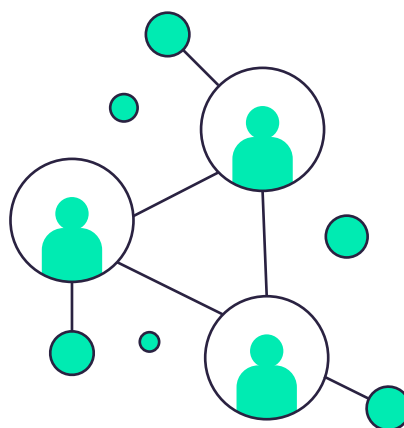
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REVERSE ETL USE CASES

Here are some use cases for reverse ETL:

- An online retailer moves inventory data from an inventory management system to Snowflake before pushing that data to Microsoft Power BI, which generates insights about logistics and stock information. The retailer's employees don't know how to use Power BI and want to access its insights within their inventory management system. Reverse ETL enables the retailer to move Power BI data to the inventory management system.
- An online retailer moves customer data from Salesforce to Amazon Redshift before pushing that data to Looker, which generates valuable customer insights. Reverse ETL enables the retailer to move Looker data back to Salesforce. Ecommerce teams can now access those insights from within Salesforce.

Integrate.io is one of the few data integration platforms with a native Salesforce-to-Salesforce connector out-of-the-box. It allows Ecommerce retailers to move Salesforce data to a warehouse and run that data through BI tools before moving data back to Salesforce. The process requires no code, helping Ecommerce teams operationalize Salesforce information even if they lack data engineering experience.



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WHAT ARE THE CHALLENGES OF REVERSE ETL?

The challenges of reverse ETL are similar to those of ETL and ELT.

The reverse ETL process requires the completion of API connectors that move information from a warehouse to a third-party business application. These API connectors require, at the very least, intermediate coding knowledge. Many Ecommerce retailers will struggle to build connectors (and manage their endpoints) for reverse ETL, especially if they have never used this data integration method before.

There are also concerns about data loss and quality during reverse ETL. Data analysis will prove useless if data goes missing or gets corrupted as it moves from a warehouse to a business application like Salesforce.

Again, Integrate.io can solve these challenges by ensuring data retains its quality and doesn't go missing during the reverse ETL process. The platform also complies with data governance frameworks, helping you stay on the right side of the law when moving data from a warehouse to an application.

Read more: [How To Simplify The ETL Code Process With Low-Code Tools](#)

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HOW TO CHOOSE A REVERSE ETL TOOL

Most Ecommerce retailers will rely on reverse ETL solutions to move data from a warehouse to operational systems.

These tools mean businesses don't have to create API connectors from scratch or call on an expensive data engineer. Here are some factors to consider when choosing a reverse ETL platform for Ecommerce:

PRICING

Some reverse ETL tools charge retailers for the amount of data they consume; others make retailers pay for the number of connectors used to move data from a warehouse to an application. Ecommerce businesses should choose a platform that suits their budget and requirements.

SECURITY

Retailers should take security seriously when moving data from a warehouse to avoid data breaches and breaking data governance legislation. They require a tool that offers security features such as encryption, access controls, and GDPR compliance.

NO-CODE/LOW-CODE CONNECTORS

Not all reverse ETL tools have no-code/low-code connectors for all the major data warehouses. Retailers should choose a platform that syncs with the warehouse of their choice, allowing them to move data to an application with little or no code. If a reverse ETL tool doesn't support a warehouse, its developers might build a custom API connector for a retailer for an additional cost.



SUPPORT

The best reverse ETL tools offer multiple support options, enabling online retailers to resolve problems via phone, email, or instant messaging. Businesses should consider a platform with online tutorials, FAQs, and user guides to help them troubleshoot issues.

OTHER DATA INTEGRATION METHODS

Depending on their data infrastructure, retailers will likely still push data from sources into a warehouse as well as move data back to an application. They require a tool that offers both reverse ETL and traditional data integration methods like ETL and ELT. Choosing one of these platforms will improve their overall data management strategy.

EASE OF USE

Smaller Ecommerce retailers, including startups, might be new to data integration and will require a reverse ETL tool that's easy to use. The best platforms come with a drag-and-drop point-and-click interface that simplifies the data warehousing lifecycle.

TOOLS FOR ECOMMERCE

Most reverse ETL tools cater to a general audience and might include features for multiple niches. Online retailers might benefit from a platform that caters exclusively to the Ecommerce sector and responds to the growing challenges of data integration in this industry.

Some of the most popular reverse ETL tools include Integrate.io, Fivetran, Hightouch, Hevo Activate, and Census.

Integrate.io is a data warehouse platform for Ecommerce that can move data to a warehouse for analysis and then transfer it to a business application via reverse ETL. The platform's drag-and-drop interface and out-of-the-box connectors mean you can perform reverse ETL without lots of code or data engineering. The result? Ecommerce teams can access the data they need from the applications they are familiar with. Integrate.io also offers super-fast CDC, allowing you to monitor two or more databases in your organization and take action when someone makes changes. Email hello@integrate.io to learn more.

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HOW INTEGRATE.IO HELPS WITH REVERSE ETL

Most Ecommerce retailers move data to a warehouse before running that data through BI tools.

That helps them make smarter decisions and generate insights about sales, marketing, customer service, inventory management, and other Ecommerce processes. However, Ecommerce teams don't always know how to use BI tools and prefer to use the software tools they are already familiar with. Reverse ETL moves data from a warehouse to third-party business applications, allowing teams to access data insights in a more comfortable environment.

The problem with reverse ETL is that it requires complicated API connectors that involve advanced coding and programming experience. Many Ecommerce retailers can't build these connectors without spending thousands of dollars on a data engineer.

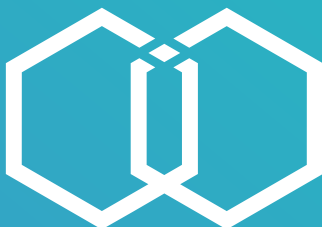
Integrate.io helps retailers with out-of-the-box data connectors that sync with the major data warehouses, enabling the fast flow of data from a warehouse to a business application without the need for lots of code.

By transferring data from a warehouse to an application with Integrate.io, you can improve productivity, marketing, and the customer experience in your organization. That's because teams can access the insights they need to do their jobs from the software they use daily. Integrate.io's drag-and-drop click-and-point interface makes reverse ETL even less of a challenge.



Other Integrate.io features include:

- World-class customer service: You can talk to a member of Integrate.io's team via phone, email, or live chat.
- Data governance: Integrate.io complies with all major data governance frameworks, helping you avoid expensive penalties when moving data from a warehouse to a business application.
- Native Salesforce-to-Salesforce connector: Move Salesforce data to a warehouse and back to Salesforce again with an in-built data connector that requires no code. Not every data integration platform offers this feature.
- Super-fast CDC: Integrate.io also performs super-fast Change Data Capture, allowing you to compare two or more databases and take quick action when someone makes adjustments to those databases.
- A simple workflow creation that defines dependencies between tasks.



Integrate.io is the data warehouse integration tool built for Ecommerce. Now you can transfer data from a warehouse to a business application via the reverse ETL process and make life easier for your team. Integrate.io removes all the jargon associated with warehousing, helping you streamline your data management responsibilities. Email hello@integrate.io or [schedule a meeting](#) for a 7-day Integrate.io pilot.

We hope that you have enjoyed reading this whitepaper.

If so, be sure to [check out our other Whitepapers](#) related to "[Activate Your Data Warehouse With Reverse ETL](#)".

Interested in learning more about Integrate.io?

Chat with an Expert!