The Pros and Cons of Buying an Integration Tool vs. Custom-Building APIs

Integrate.io

Table of Contents

1. Introduction

Here's what you need to know about the pros and cons of buying an integration tool vs. custom-building APIs:

1. A data integration tool is an off-the-shelf software solution that comes with pre-built connectors to help businesses collect information from many data sources.
2. Custom-building APIs involves creating application programming interfaces from scratch for various third-party software and services.
3. The pros of data integration tools include a stronger user experience and flexible pricing models, while the cons include a potential lack of connectors.
4. The pros of custom-building APIs include custom and niche integrations, while the cons include greater time and effort and scalability issues.
5. For businesses without highly specialized needs, buying an integration tool is likely the best choice.

Data integration is the lifeblood of today's modern data-driven businesses. **According to a survey by Dresner Advisory Services**, 67 percent of organizations say they already use data integration to enable their analytics and business intelligence workflows, and another 24 percent plan to do so in the coming year.

The purpose of data integration is to collect information from a variety of **data sources** across your IT ecosystem, storing it in a centralized location such as a **data warehouse.**

The potential sources for data integration are nearly limitless: from internal and external files and databases to CRM (customer relationship management) platforms like **Salesforce**, ERP (enterprise resource planning) solutions like **Oracle NetSuite**, SaaS (software as a service) apps, and productivity tools like Microsoft Teams and Slack. Once this information is inside the data warehouse, it becomes much easier to use it for a wide range of use cases, helping enable stronger data-driven decision-making and digital transformation.

The question is: how can you get all this information inside the data warehouse in the first place? Companies that require data integration functionality typically have two options for their integration needs: purchasing an off-the-shelf integration tool and custom-building APIs (application programming interfaces) in-house.

This article includes everything you need to know about the question of build vs. buy when it comes to data integration. We'll start off by going over what it entails to buy an integration tool or custom-build APIs. Then, we'll talk about the pros and cons of each option before concluding with a discussion about how to choose the right integration approach: buying an integration tool or custom-building APIs.

2. What Is Buying an Integration Tool?

Buying an integration tool refers to purchasing an off-the-shelf data integration platform. A data integration platform, also known as a data integration tool, is a specialized software application designed to facilitate the business process of enterprise data integration.

Simply put, data integration tools help move information from one place to another within an IT environment. To accomplish this task, integration tools come with a large number of pre-built connectors and integrations to help link an organization's data flows.

One type of data integration tool that has been growing in popularity is known as iPaaS (integration platform as a service). An iPaaS is a cloud-based application for enterprise data integration that helps third-party software communicate and exchange data, both in the cloud and on-premises. IPaaS solutions aim to connect as many software applications as possible, uniting an organization's IT environment under one roof.

Of course, not all data integration tools are created equal. Below, we'll discuss the differences you should be aware of when buying an integration tool.

ETL vs. ELT vs. ETLT

The most common form of data integration is known as ETL (extract, transform, load). The letters of the ETL acronym refer to the three stages of the data integration process. Data is first extracted from one or more sources, then transformed to improve data quality and meet the needs of the target repository. Finally, it is loaded into a data warehouse (or another variant, such as a data lake).

Data Integration Tools: Features and Functionality

Beyond the process of data integration itself, integration tools may also come with a large number of useful features and functionality. These features can dramatically enhance the user experience of an integration platform. First, many companies look for a data integration tool with low-code or no-code functionality. This means that users can create their own data pipelines and workflows without writing code (or with only minimal coding requirements), often through a drag-and-drop visual interface. Low-code and no-code integration platforms give the power of data integration to a much broader audience, making it easier for everyone in the organization to participate.

Another highly useful feature for data integration tools is CDC (change data capture). In CDC, users receive a notification when changes have been made to a table or database used as a data integration source. A new integration job can then begin immediately, selecting only those records that have changed since the previous job. This allows users to keep their centralized data warehouse as up-to-date and accurate as possible without wasting time and effort extracting records that have not been changed. Businesses may also wish to look for a data integration tool with reverse ETL functionality.

In reverse ETL, data is pushed out of a centralized data warehouse and into third-party SaaS applications, such as CRM or business intelligence software. Why would users want to perform reverse ETL after spending time and effort getting this information into the data warehouse? In many cases, reverse ETL can help facilitate greater access to information and insights. Although non-technical users may not have the skills to manipulate and analyze data inside the data warehouse, they can take advantage of the analytical capabilities offered by this third-party software.

3. What Are Custom-Building APIs?

What Is an API?

An **API (application programming interface)** is a crucial, yet often under appreciated, component of modern enterprise technology. The purpose of APIs is to allow different third-party applications and services to seamlessly communicate with each other.

This task is perhaps more difficult than many people realize. Two software applications written by different software developers almost certainly have different ways of storing information and different protocols for communicating this information. This issue is akin to the problem of acting as a translator between people who speak different languages—except in the world of software, each application has a unique "language" that must be understood by other applications to which it speaks.

APIs help dramatically simplify the process of two different applications or endpoints communicating. An API is essentially an interface provided by a software application that defines a set of actions or requests that other applications can make.
For example, the social network Twitter provides its own **Twitter API** that allows users to perform a number of valuable functions. These include making a Twitter post, searching for specific Twitter posts (e.g., posts that use a particular hashtag, or were made on a particular day), and even creating your own Twitter bot to automatically share content from other sources.

A good real-world analogy for APIs is the menu at a restaurant. Using the menu, the restaurant's customers can make different types of orders and then receive the food they anticipated in response. Customers do not have to understand the inner workings of the restaurant, such as how the food is prepared, to get what they request.

Similarly, an API defines the kind of requests that users can make to an application. Users do not have to understand the technical inner workings of the API or the application itself to get the responses they need.

By providing a fast, clean, user-friendly interface for applications to exchange information, APIs have enabled much of the modern web. Just two examples: travel booking websites like Kayak and Google Flights use APIs to get ticket pricing data from airlines, while weather forecast apps use APIs to get weather prediction data from sources like the **National Weather Service**.

What Are Custom-Built APIs?

An **API integration** refers to the connection between two or more applications or services using their respective APIs. While sometimes these API integrations are available out-of-the-box, not every application comes with its own APIs. Thus, developers sometimes need to custom-build APIs to enable communication between different software solutions.

A custom-built API is an API that has been built by a third party without being officially released by the application developers. Custom-built APIs require detailed knowledge of how an application operates. This often involves scraping information from a website or mobile app and then manipulating or transforming it in some fashion to make it presentable for other applications to use.

As you might expect, custom-building APIs requires a good degree of specialized technical skills. Not only do API builders need to know the general practices of software development, they must also be intimately familiar with the operations of the applications and services for which they are building APIs.

4. The Pros and Cons of Buying an Integration Tool

What are the pros and cons of buying an integration tool? This section covers everything you need to know if you're considering a data integration platform.

The advantages of buying a data integration tool include:

User experience: Most data integration tools on the market have been designed to provide a smooth, user-friendly experience. Modern integration platforms come with features and functionality to make it as easy as possible to start integrating your enterprise data. These include a low-code or no-code drag-and-drop interface, a wide range of data transformations, and advanced features such as change data capture and reverse ETL.

Pricing: Integration tools come with broad pricing options, giving businesses the freedom to pick one that fits their budget. Some data integration platforms charge based on the number of users, while others price based on the amount of data you consume. Integrate.io offers a connector-based pricing model: you only pay for the data connectors you need in your data workflow. This makes Integrate.io an excellent choice for growing businesses that plan to keep the same connectors.

The disadvantages of buying a data integration tool include:

Potential lack of connectors: When it comes to data integration tools, users are generally stuck with the platform's built-in connectors and integrations. Although users may request new connectors from the tool's developers, there's no guarantee when (or if) the developers will add it. Thus, businesses should do their research ahead of time to find the integration platform that already has the connectors they need.

Pricing: While pricing can be an advantage of pre-built data integration tools, it can also be a drawback. Some companies prefer to spend their IT budget upfront (i.e., capital expenses), rather than on the recurring costs of data integration platforms (i.e., operating expenses).

The Integrate.io data integration tool provides a user-friendly experience and a REST API connector to communicate with any service that has a REST API. To try Integrate.io for yourself, get in touch with us today.

5. The Pros and Cons of Custom-Building APIs

Now that we've seen the pros and cons of integration platforms, we'll address the same question for custom-built APIs. The advantages of custom-building APIs include:

Custom integrations: Unlike an off-the-shelf integration tool, custom-building APIs lets you select exactly which data integrations you want to perform. There's no need to spend money on connectors you'll never use in your data integration workflow. This is especially useful for applications and services that are more niche or obscure, making it unlikely that pre-built connectors are available.

Pricing: Custom-building APIs can be more cost-effective than purchasing off-the-shelf integration tools, depending on your existing setup and preferred cost model. For example, if you already have a large team of in-house developers, you can devote part of their time to building APIs without neglecting other tasks.

The disadvantages of custom-building APIs include:

Time and effort: Custom-building APIs is time-consuming and requires significant resources. More complex APIs can take anywhere from weeks to months to build—assuming you already have access to a team of technical experts who can start immediately. If you're using an in-house developer team, the task of custom-building APIs takes up valuable time and effort that you may wish to use on other activities.

Maintenance costs: The task of custom-building APIs is not complete once the API has been built. You'll also need to spend time on maintenance and upkeep as the underlying application or service evolves. In the worst case, it may change without warning, causing the API to break. When this occurs, you're left scrambling to make the changes so you can retain uninterrupted access to this data.

Scalability: Building your own APIs rapidly runs into the issue of scalability. The more applications and services you have in your data workflow, the more APIs you'll need to build. This is especially true for point-to-point connectors, which have been written specifically for two particular applications to communicate. With just eight different applications, for instance, you'll need to write 28 different point-to-point connectors (this is an example of the handshake problem in mathematics).

6. Buying an Integration Tool vs. Custom-Building APIs: Which is Right for You?

We've gone over the pros and cons of buying an integration tool vs. custom-building APIs. It's now time to ask: which one is right for you, a pre-built integration platform or custom-built APIs?

A pre-built integration platform is likely the right choice for the following use cases:

- Your data integration workflow is fairly standard and doesn't require highly specialized connectors or integrations. In some cases, however, you can connect to an application or service using an integration tool even without a dedicated connector for that application. For example, Integrate.io offers a REST API connector that can extract data from any service with a REST API.
- You want to enjoy access to cutting-edge features and functionality for data integration, such as reverse ETL and change data capture.
- You don't have access to a team of skilled software developers to custom-build APIs, or your team doesn't have the time needed for this task.

You prefer to be free from worries about maintaining custom-built APIs as they change over time.

Custom-built APIs are likely the right choice for the following use cases:

- You use a number of highly specialized or niche applications and services in your data workflow, making it difficult to find integration platforms with pre-built connectors.
- You can afford to spend the time, money, and effort it takes to build your own APIs.

7. How Integrate.io Can Help With Choosing an Integration Tool

For most organizations, purchasing an integration tool, rather than custom-building APIs, will be the right choice for data integration.

The next question is: which data integration solution is right for you? From support for different connectors to the degree of user-friendliness, there are several factors to consider when buying an integration platform.

Integrate.io is a powerful, feature-rich ETL (extract, transform, load) and data integration platform that has been built from the ground up for the needs of ecommerce businesses. With Integrate.io's simple, low-code, drag-and-drop visual interface, it's never been easier for end users of all technical skill levels to define and automate real-time **data pipelines**. What's more, Integrate.io comes packed with more than 140 pre-built connectors and integrations for the most popular data sources—everything from databases and cloud storage to analytics and business intelligence tools.

The Integrate.io data integration platform comes with a great variety of features and functionality to fit the needs of most businesses and industries. Integrate.io's FlyData CDC (change data capture) feature helps users detect precisely which fields and records have changed within a database since the last integration job, so you don't have to waste time and effort extracting the same information. Meanwhile, Integrate.io's reverse ETL feature pushes data out of a centralized data warehouse into third-party SaaS applications, making it easier for non-technical users to access this information and identify crucial insights.

Want to learn more about the benefits of Integrate.io's data integration tool?
Get in touch with our team of data integration experts today to discuss your business needs and objectives or to start your 14-day pilot of the Integrate.io platform.

We hope that you have enjoyed reading this white paper.

If so, be sure to check out our other **White papers** related to "The Pros and Cons of Buying an Integration Tool vs Custom-Building APIs".

Learn more about how Integrate.io can help make your data work for you!

GET A LIVE DEMO!

Integrate.io