Using Custom code or an Integration Platform

Alumio White paper

How To Choose An Integrated Solution That Fits Your Business

In this white paper, you'll find the most important considerations that need to be taken into account when choosing an integrated solution that seamlessly aligns with the needs of your business, along with your defined goals and projected outcomes.

Selecting the proper software solution for data integration can be tricky with so many different choices available. In addition, these options provide you with websites, catalogs, and pamphlets, only leaving you with half the story told. For that very reason, we've worked to compile a number of well-known and lesser-known data integrations platform into a single and easy to read document to aid in your decision making.

We'll point out different types of platforms all based on a defined set of points.

There Are 3 Types of Integration Solutions

1. Custom Code Integration Solutions
2. Pre-Built or Vendor-Provided Integrations
3. Middleware Solutions For Integrations
    - Traditional ESB Solutions
    - SaaS Integration Solutions
    - iPaaS Integration Solutions

If you want to learn more about:

- How we did our research.
- The different types of integrated software solutions/platforms that exist.
- The advantages and disadvantages of each platform.
- An overview of leading software.
- How you can learn to spot differences when connecting your eCommerce store to your ERP.

Bespoke / Custom Code Integration

More than likely, the first integrated software solutions that you created were probably bespoke or custom coded, end to end, integrations. If you've already got your own ERP application and want to support integration from other data entities with another application, then you've likely asked your software partner to add some custom code to support communication between your APIs.

The Pros

This type of approach works best when you have no more than 2 applications to integrate. If you feel comfortable enough in the stability of your integration team, then this should work for you. However, we always recommend that you agree on the code and have robust discussions regarding how the integration will function.

The Cons

- Writing custom code can cost money and take up a substantial amount of time.
- Custom code needs the professional who built the integration to provide support and maintenance.
- Adding new functionality can be difficult because there isn't much knowledge of the current code available.
- For mission critical integration, your team would be forced to create custom monitoring protocols, which can be expensive.
- When the APIs are updating themselves, you could experience communication issues.
- Changing software in your IT landscape requires a big project and a big process.
- You'll need extra custom coding at some point to integrate new technologies like marketing automation software, AI, and machine learning tooling.

Pre-Built / Vendor Provided Integrations

These types of integrations are often offered by the suppliers of renowned solutions, like Salesforce, Microsoft, Adobe, and so on. But oftentimes, they also offer smaller solutions that come in the form of “plugins.” With this type of approach, an integration has been built that is topically developed by a partner or a supplier with the purpose of exchanging data form their application to another.

How To Find The Right Plugins

Remember, plugins can range quite dramatically in terms of quality. And it’s important to realize and invest in the following:

- Understand the difference between plugins that realize a 1 to 1 integration and those that are linked to an iPaaS solution and are suitable for linking data to multiple applications. For instance, if the plugin is part of an ESB/iPaaS, you’ll receive all of the benefits of an ESB/iPaaS.
- From there, determine the certification of the plugins themselves. Have they been checked and certified by the relevant package? Is it well maintained? Is it a brand new plugin without much experience?
- If you use a plugin, it’s important to remember that you can’t assume it’ll respond to custom wishes. In other words, customization is most likely impossible. In this case, it is important to plan and ensure that your customization needs are supported by the plugin that you’re choosing.

Pros

Plugins can be brought to the market quickly, which means that they’re often quite cheap. You don’t have to send the same data to multiple applications if the plugin is already certified because it’ll do the job automatically. Plugins are great when you fall in the 80% category that suits that particular use case and when you don’t have a need for customization now or in the future. And they also don’t have to be monitored, which means there’s no need to struggle with information integration.

Cons

- Can become frustrating when you’re in need of customizations and can’t determine exactly who is responsible for managing errors.
- You’re not able to send data from your plugin to two (or more) different applications, so you cannot reuse your data; you have to built an integration for each software connection.
- Error handling and logging are often very limited and basic, which leaves you without an ability to recover data without manually reconstructing the integration.
- Plugins can introduce another tool to learn with a varying degree of complexity.
- Changing software in your IT landscape requires a big project and a big proc.
  Adding new functionalities can be near impossible. For mission critical integrations, your team would be forced to create custom monitoring protocols, which can be highly custom and expensive.
- When the APIs are updating themselves, you could experience communication issues.
- You’ll need extra custom coding at some point to integrate new technologies like marketing automation software, AI, and machine learning tooling.

Middleware Solution For Integrations

With Middleware Solutions, you could connect different software applications together using a special type of coding tool. Middleware is essentially a product that sits between multiple primary business systems. These solutions can include native Microsoft Dynamics products, along with other primary business systems and applications like SAP, NetSuite, or Sage.

Middleware integrations come with a wide range of benefits that can range anywhere from a more user-friendly interface, to a reduced need for a professional developer to do mapping. Instead, these platforms already feature some comprehensive mapping and monitoring tools that make it easier to log, queue, compare, or temporarily save your data. From there, some of these integration products can also include native connections to ERP systems and other templates to shorten your time to market.

It's important to note that only those who understand a bespoke solution are equipped to author code for a middleware integration. Remember, if something goes wrong, it'll be impossible to remedy it without someone who understands the bespoke code. However, the benefit of having an automated process as opposed to a manual one is surely enough to outweigh the potential need for a developer.

Pros

One of the biggest benefits of Middleware integrations is that they're entirely future-proof, quick to market, secure, and scalable. They're ideal for a business with digital ambitions without forgetting about the importance of agility and scalability. With Middleware, you'll have an up and running integrated software solution with monitoring software, notifications, detail logging, and effective maintenance.
Don't forget, there are also a variety of native plugins and templates to ensure a fast time to market. All integrations are done in one software application, which makes for a cleaner IT landscape without too much custom code.

- Avoid lengthy and expensive software coding.
- Extend the applications of your primary system.
- Easily scale your product as your company grows.
- Remain secure and compliant.
- Easily and quickly integrate other solutions.

Cons

- When used with only 1 integration, it can become quite expensive.
- Sometimes you'll be forced to build data integrations instead of using small plugins. This can become time consuming and more expensive.

3 Types of Integration Middleware Solutions

For companies that have their sights set on digital technology, a middleware solution could be the smartest way to go because it makes organizing your integrations and creating a future-proof IT landscape easier.

However, in order to have the right software in place, you need to ensure that you have the right tool to do the job. You need to determine exactly which type of integration solution best suits your needs.

The three types of integration middleware solutions can include essential integration software. Take a look down below to learn more about each one.

1. Traditional ESB Solutions

Enterprise Service Bus solutions are on-premises software architecture models that typically utilize common technology that existed before Cloud technology became the new standard. Because ESB solutions rely heavily on on-premises footprints, older messaging and aging document standards, they're commonly seen in enterprise businesses with dedicated IT teams for managing integrations via the ESB solution.

2. SaaS Integration Solutions

The SaaS integration solution were designed for business users who wanted simple integrations between the systems that they already use. For example, SaaS integration solutions provide a highly abstracted view of the underlying APIs that typically enable users to configure their integrations, which means that you won't require any specialized skills to run them.

From there, users can use the data entities already available in systems and build their integrations with ease. All of this can be done through the user-friendly interfaces that make these solutions simple and easy to use.

3. iPaaS Integration Solutions

As the new standard in the market, iPaaS integration solutions are a brand new class of solutions that have only begun to pop up within the last 3-5 years. The iPaaS integration solution is similar to an SaaS integration solution, but it's placed into a private Cloud environment for each customer to access on their own. From there, customers can make customizations on an individualized basis without limitations.
These solutions are specifically designed to eliminate the common problems that often result from a proliferations of point to point integrations by providing centralized integration management. They abstract APIs and enable the configuration of connections from apps to the iPaaS system. From there, the user experience can vary widely depending upon the individual needs of each organization. For instance, these solutions can be scaled for large enterprises, making them better suited for IT use. Or they can be tailored into pre-built integrations designed to help organizations get started quickly and build custom integrations that suit their needs. For instance, Alumio and Workato are ideal examples of iPaaS solutions. Alumio has placed a large focus on the world of digital eCommerce due to the available templates for the related software solutions.

How To Choose The Right Matching Middleware Solution

Now it's time to distinguish the differences between the three different types of middleware solutions. From there, we'll help you choose the right matching middleware solution to suit your needs.

Traditional ESB Solutions

Remember, it all comes down to the types of systems that iPaaS and EBS can integrate best, along with their level of complexity and their scalability.

These two integration models aren't as dissimilar as you might think, however. In fact, some iPaaS solutions have evolved to support on-premises systems that are commonly found with legacy EBS solutions (Alumio is one of those up and coming iPaaS solutions that offers this), while other ESB vendors have introduced features to more elegantly support the integration of Cloud services, since it's so accessible and affordable in today's market.

ESBs are designed to integrate complex and static IT systems and architecture – that's why they're more suited to hold together an enterprise's on-premises and legacy systems. iPaaS solutions, on the other hand, offer a more lightweight integration solution that is better suited for flexible and real-time applications in a changing and moving IT landscape.

It's important to consider that iPaaS solutions still do have some limitations that might push you in the direction of a more traditional ESB solution. For example, iPaaS solutions aren't exactly designed for enterprises with complex organizational systems and internal architectures. Then again, it's also important to consider that ESB solutions are usually very custom tailored to each business' unique requirements, which makes them not suitable for scalable Cloud purposes. They can only run a single service at a time because they're simply too slow to handle more demanding processes.

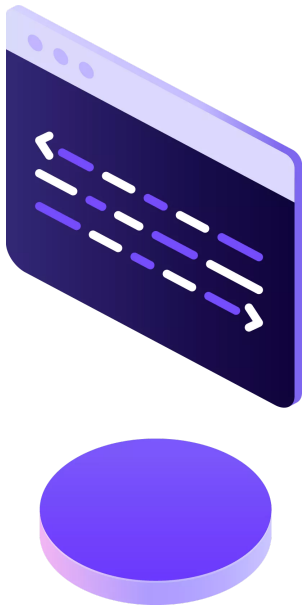
Candidates:

Leading Players
IBM, SAP, SAS, Talend, Tinbo Oracle & Informatica are the absolute leaders here.

Challengers
Qlik (attunity), Microsoft, Actian, Denodo and Snaplogic are interesting candidates which are a bit lower priced.

Pricing:

ESB tooling is quite expensive. It all starts with 50.000+ euro license costs a year, but expect a lot more. Next to that, it's not uncommon that IT departments are being created to set up and maintain internal integrations via an ESB.



SaaS Integration Solutions

SaaS integration solutions should be considered when you have integration needs for a specific tooling system that is only used by 1 department, user group, or business team. These are best utilized when you only have a maximum of 2 data entities that need to be integrated at any given time in a simple way.

When using SaaS integration solutions, be sure to note that you have virtually no option for customization outside of what the solution provider has already built. This means that SaaS solutions are not necessarily scalable solutions. Most of the time, pricing is often task or message-based, which tends to get expensive.
With limited and basic compliance, these types of solutions are not suitable for multiple integrations and single point of integration.

Candidates & Pricing:

Blendr:	Starts at $1000 a month (source: capterra).
Zapier:	Pay-per-message model – for 2.000 messages you pay $49 a month | for 50.000 messages you pay $299 a month | 100.000 message $599 a month. (source: zapier.com).
IFTTT:	Developer license costs $199 a month, which is limited on routes and actions. For full functionality, you pay a volume-based pricing (source: platform.ifttt.com/plans)

iPaaS Integration Solutions

When people describe an iPaaS integration solution, they often mention that it's exactly like an ESB, except it has been purposely built to operate in a scalable Cloud infrastructure. This is a simplified view, but it is quite accurate! iPaaS integration solutions add elasticity and ease of integration between Cloud and Cloud and Cloud to on-premise systems.

Because of this, this class of integration solutions is considered the new standard. Part of an up and coming and emerging class of solutions, they are designed to eliminate the problems that often come along with the proliferation of point to point integrations by providing centralized integration management.

iPaaS solutions abstract APIs to enable the configuration of connections from different apps directly to the iPaaS.

When To Consider This Approach

- When your integrations are mission critical.
- When you have a mix of complex and simple integrations.
- When you have multiple systems to integrate.
- When you want your business teams to manage and maintain your integrations instead of an IT team.
- When your integrations requirements are fluid and change often.
- When you need to build custom integrations.
- When you require advanced operational visibility into your integration performance, including error handling and auto-recovery.

Cautions To Consider

No iPaaS solution is the same, so develop a checklist of your specific requirements and cross reference that with the features and capabilities of each iPaaS solution under consideration. From there, ensure that you're not paying for enterprise-level features that you'll never use.

Summary "How to choose an integration solution"

BUDGET	CUSTOM CODE	PLUGIN	ESB	SAAS	IPAAS
Budget	The most expensive	Low/Middle price range	The most expensive	Low pricing	Middle price range
Need license / Recurring costs	No	Yes	Yes	Yes	Yes
Customizations possible	Yes	No (minimum)	Yes	No (minimum)	Yes
Manageable situation	Low	Low	Very good	Medium	Very good
Multiple integrations possible	Yes	No	Yes	No	Yes
Hosting	Custom	Custom	On Premise	Cloud	Private cloud (or On Premise)
Implementation	Partner	Partner	Partner	Yourself	Yourself of partner

About Us

Alumio offers an integration platform and solution for the eCommerce market based off of the new wave of iPaaS integrated software solutions. Alumio is designed to provide today's businesses with the ability to integrate their processes simply, with a scalable solution that can be used to grow as you grow.

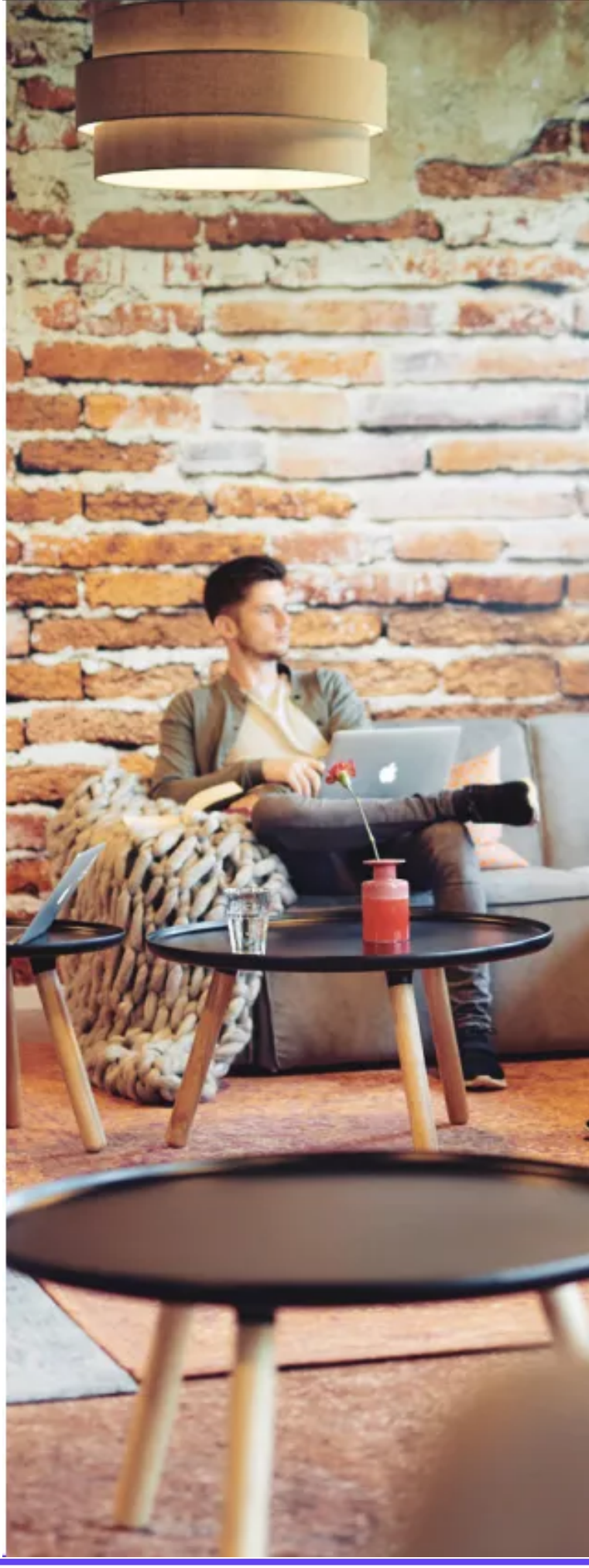
With more than 10 years of experience in creating integrated software solutions, we've developed Alumio as a long-term solution for your business. Along with our clients in industries like eCommerce, retail, manufacturing, finance, and wholesale we help businesses achieve their full potential.

Our Story

Our humble beginnings go back as far as twenty years ago when we were a digital agency that specialized in making integrated solutions between ERP systems and digital software. While we worked with eCommerce clients, we also needed to integrate with (e)POS systems, warehouse systems, and PIM systems.

In our early years, we made integrated solutions using custom code. However, we knew just how challenging this was going to be moving forward. We didn't have a viable way to monitor our custom code, which often left our clients calling us with issues. While our support team would do everything they could to solve the issue, they simply didn't have enough knowledge with the custom code that our solutions were built around.

For that very reason, we moved to embrace the new standard of integrated solutions in iPaaS integrations. Today, our clients no longer have to deal with the back and forth between our support staff and their IT team, they no longer have to worry about fine tuning their code, they no longer have to worry about hiccups in their integrations – instead, they can finally reap the benefits of a scalable, affordable, and flexible integrated software solution designed for modern businesses and modern technology.



The integrated platform for digital commerce & AI

Alumio ends the pains of data silo's which stop business to grow, as well as the pain of hand-crafted code by several partners, teams and developers. Alumio created a scalable, high performing and above all secure and save and compliance environment to handle your data integrations.

Alumio is designed to be 'The best solution for data integration', when it comes to create fast connection between ERP systems, the new digital software applications and to Machine Learning/ AI solutions.

Alumio will improve business processes, accelerate decision-making, and drive better business outcomes.

The Alumio integration platform, delivered as private cloud solution, is a central place for all integrations, so companies are able to use data, accelerates process flow across applications, databases, data warehouses, big data streams, and AI solutions.

All-in-One Integration Solution for Digital Commerce

alumio®