

GUIDE

The IT manager's guide to future-proofing systems integration

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Get an insight into different integration solutions and find the best solution for your organization.

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The IT world is changing rapidly

The IT landscape is in constant evolution, and integration is a critical key to creating a functional infrastructure with organization, clarity, and user-friendly applications. Integration streamlines administrative processes and accelerates the pace of digital transformation across the entire organization.

The growing number of applications, today's rapid digitalization and emerging microservices have increased the need for systems to communicate effectively with one another. However, finding the right integration solutions remains a challenge for many organizations.

In today's society, we have come to expect seamless access to information across platforms and applications, no matter where we are. This development has led to increased digital

complexity. Many companies use legacy processes alongside modern ones, relying on information sources scattered across an ever-expanding IT landscape. At the same time, both internal and external applications need to communicate efficiently, and integrations must be continually updated to prevent critical information from being lost.

This has led to a significant shift in how integrations are designed, implemented and managed. You can now choose between platform-based integration or fully agile solutions that are flexible, decentralized and focused on microservices.

In this guide, we will help you compare various types of integration solutions. We'll explore the solutions currently available on the market to assist you in finding the one that best fits your organization.



How integration works

As a company grows, the demands on its IT environment and the applications it uses increase. Whether you rely on cloud-based applications, on-premise solutions, or a hybrid approach, it becomes increasingly important for these systems to exchange information seamlessly. This is essential for accelerating digital transformation within your organization.

Integration allows your applications to access each other's data and communicate securely and efficiently. This ensures that users have access to the information they need when they need it.

With effective integration, applications communicate automatically through well-defined processes and workflows, eliminating the need for manual intervention.

Types of integration solutions

Below is an overview of some of the most common types of integration solutions.

Point-to-point integration

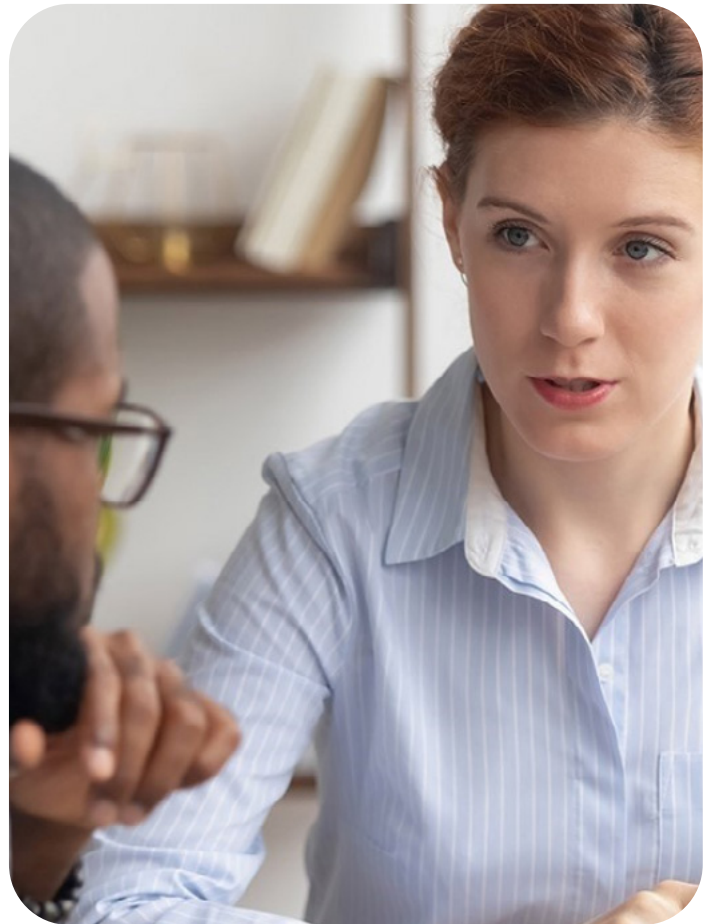
Point-to-point integration is the oldest type of integration. It works by enabling two systems to communicate directly with each other, programmed to understand one another's data. In this setup, all information flows directly from a function in one system to a function in the other system.

However, in a complex IT environment, it is rarely this simple. Point-to-point integration does not scale well and is difficult to maintain, which is why it is no longer commonly implemented.

Platform integration

You want two or more systems to communicate smoothly, but they speak different "languages." The sending system transmits data, but the receiving system cannot interpret it in that format. In such cases, a translator is needed. Platform integration can be an effective solution here. Through a central system that receives the information, the "languages" of various systems can be adapted to suit the intended recipients.

This approach enables IT systems to understand one another, allowing different "languages" and applications to be connected. With platform integration, you can also make changes to one system without affecting the entire structure. However, platform integration has its drawbacks: it doesn't scale well, is complex to maintain, and often comes with high initial costs.



Agile integrations

In a rapidly changing world where systems and applications evolve quickly, traditional platform integration may be too slow. Agile integrations can be the solution. Built with multiple microservices rather than a fixed, centralized solution, agile integrations offer a decentralized, flexible and often cloud-based approach. This allows for the quick and seamless addition of new integrations as business needs arise.

The cornerstones of agile integrations are flexibility through distributed integrations, the use of APIs and scalability. This solution is best suited for organizations that prioritize adaptability and scalability. However, it requires organizational adjustments, including new ways of working and the establishment of dedicated DevOps teams.

Integration as a Service

Integration as a Service (IaaS) essentially means outsourcing your integration needs to a partner who takes full responsibility. You can request new integrations as they are needed, and your partner delivers them, often within a predefined timeframe and to a platform you don't have to manage.

With IaaS, you outsource the management and support of your integrations and APIs. Your partner takes full responsibility for ensuring everything runs smoothly, stays updated and remains secure.

One challenge with this approach is the procurement process. Integration is a critical and complex component of your IT environment, so you must establish the right requirements and find a partner who understands your business and unique circumstances.

Implementation of integration solutions

In the past, companies used manual solutions to export, convert and import all information separately, ensuring that everything ended up in the right place in the receiving system. At that time, solutions were created by cutting and pasting, which required a lot of manual work. As you can imagine, this resulted in a waste of time, resources and money, and this is why newer integration solutions have been developed.

Here, we will discuss two ways to implement and manage integration solutions that are used today: either you can own and maintain your own integrations or you can seek help from a partner. As you will see, there are both advantages and disadvantages to each solution.

In-house implementation

Some companies choose to develop their own integrations. This,

of course, requires having internal expertise in the field. It means that a lot of time and effort is spent on building the integrations—and a lot of work is required afterward to ensure that the integrations continue to function. Maintenance is an important aspect that needs to be considered from the outset. Keep in mind that this work never ends; maintaining your own integrations is an ongoing process. Therefore, it is crucial to have the right internal expertise to ensure everything is correct from the start and also in the long-term during operations. One advantage of this solution is that you have complete control, but that also means that you bear all the responsibility yourself. Another challenge is that it can often be tricky to calculate the final cost of the solution.

External help

Another model that is quite common today is to own your own integration platform and seek external help for the actual development and subsequent support. This gives you access to proven methods, processes and tools, and you avoid having to create all the connections on your own. However, you must factor in the cost of the project and the external assistance. Again, it is important to know how to procure external help in the best way.



Things to consider in the decision-making process

To provide you with the best possible foundation, we will go through three common challenges and describe how traditional vs. agile integration can handle these. These are important aspects to consider in your decision-making process when choosing an integration solution for your organization.



Challenge: Keeping systems *updated*

#1

Challenge

Regardless of the solution you choose, it is important that your integrations are constantly updated and monitored. Maintenance is therefore a central aspect that needs to be handled, no matter what type of integration you choose.

A traditional integration solution, which you own, allows you to be involved in the process and construction of the integrations. However, you should keep in mind that it also requires a significant amount of effort on your part to stay up to date and take advantage of the latest technology. Every time an integration platform is updated or replaced, you must go through all the integrations in your traditional integration platform and ensure that no functionality is lost. Often, new code also needs to be written.

A common mistake that many companies make is skipping small updates because they don't think it's worth the trouble. When working with suppliers who help out, many unfortunately choose not to pay for this specific service as it is seen as costly. Instead, they only do the major upgrades, which results in a larger project each time it needs to be carried out. There are also instances where the major upgrades are ignored. This leads to major issues with the entire integration platform. It becomes unsupported, insecure, and buggy. In other words, it is a significant risk to have an integration platform that is not constantly kept updated.

To keep your traditional integration platform up to date, having the right expertise is critical. You need to have or hire professionals such as system administrators, DBAs, and application experts. Unfortunately, the demand for integration experts exceeds the supply. If you do not want or cannot hire new staff with this expertise, you must train your existing employees. The alternative is to have a supplier who can help you. Whatever you decide to do, remember to factor this cost into your budget.



8 – FUTURE-PROOF SYSTEM INTEGRATION

So, when you make updates, keep in mind that it involves all application owners, including your external partners, who must also be involved in testing to ensure that their applications have access to everything they need. These stakeholders have their own budgets and timelines to follow, which you must also respect. If you have a traditional integration platform, it requires good internal procedures within your organization.

If, instead, you choose integration as a service, it means exactly what it sounds like: you purchase the service rather than owning your own platform. The responsibility for keeping the integrations updated lies entirely with the provider. The platform is then continuously updated to always be compatible with new versions of the applications you interact with. In this way, new integrations are quickly implemented. Integration as a service can be more cost-effective since you don't need to hire or bring in special expertise for upgrades.

With platform integration managed by an external partner, it can be difficult to agree on upgrades. This is a typical area that often falls through the cracks because a partner cannot enforce upgrades on a platform they do not own. They don't always develop the integrations, which must be re-coded, and thus it becomes difficult to guarantee an upgraded platform.

To summarize: owning an integration platform can feel more secure for some organizations, but it also requires more time and resources from you in terms of maintenance. Integration as a service, on the other hand, is more accessible, flexible, and minimizes the need for internal resources, but the responsibility lies with an external party.



Challenge: Connecting internal *and external systems*

#2

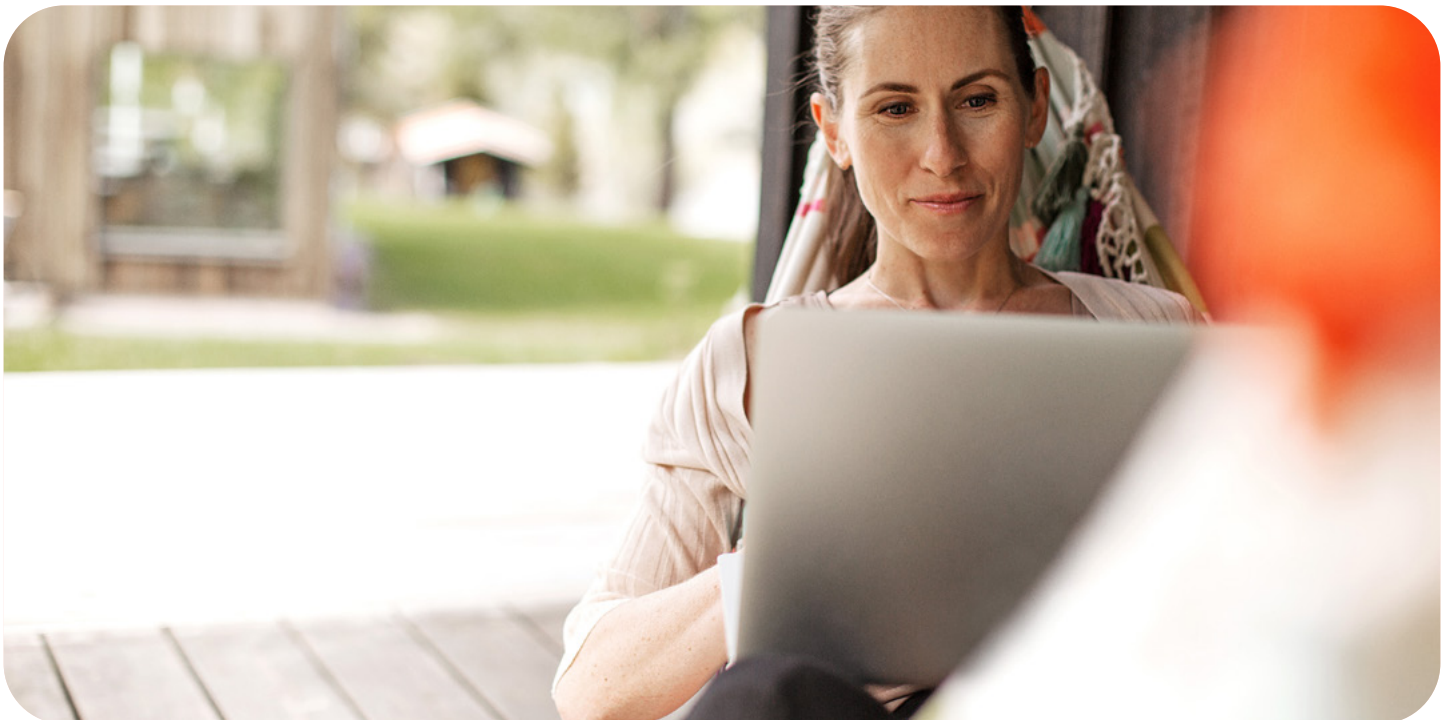
Challenge

Today, we connect more systems than ever, and it's no longer just about internal applications.

Connecting internal applications with external applications is not easy, but it is necessary today. Integrating an internal application with an external one over the internet also requires special security considerations. With a traditional integration, you will need to open ports in the firewall and set up something in the DMZ, perhaps a proxy or a new middleware with a VPN. You will also need to establish and manage security certificates that need to be replaced regularly. Unfortunately, this often requires higher levels of access than you are willing to grant. These challenges can be solved, but it takes a lot of work to both set up the system and maintain it.

This issue has led many companies to seek a smoother solution. Agile integration has been the answer for many, as the solution

is usually cloud-based and often comes with web-based interfaces where you can easily connect customers' applications to each other. There are convenient security solutions built into the architecture, so all traffic is encrypted. This makes it easier to interpret, and internal and external systems become more compatible with each other.



Challenge: Having a functional *support system*

#3

Challenge

A question you should ask yourself is how much support you might need going forward? And in what ways can you receive that support?

If you want to own and build your integrations yourself, you should make sure that you have the right expertise within the company to support everything after production deployment. Since technology is constantly evolving, you will need support that helps the system grow and identifies issues in time. One advantage could be that existing support staff, who have spare time, can also take care of the new integration platform without additional costs. A disadvantage, on the other hand, is that sometimes there is not enough going on for them to learn the technology in depth. In this case, a specific, limited contract for specialist support can help you get critical integrations into production and ensure they continue to work smoothly even during vacations, illness, etc.

A common problem among smaller companies is that they sometimes choose to use an integration platform based on Open Source rather than choosing a larger, more well-known,

and more expensive provider. The problem is that many of these companies opt out of the support contract that can be signed during implementation because they consider it too expensive. However, this decision can lead to significant costs in the long run. Support is very important and critical for the development of the integration platform. If you are left without support, it may not actually be cheaper in the end as you may encounter expensive and difficult problems along the way. Therefore, always make sure to factor support into your budget, whether you get help from an external provider or have the expertise within your organization. Additionally, you risk becoming dependent on a few specialists, which also leads to higher costs.

If you choose integration as a service, the provider takes full responsibility for the service. This means that you don't need to have internal expertise or even think about your integrations. It's included in the service, and the provider's SLAs ensure that they function smoothly and that you have access to their expertise.



Choose the right integration solution

Investing in integrations is a big and important step. So, what should you consider when planning your integrations? For example, do you want to own your platform? Or would you prefer a more scalable agile solution? Do you want one or more suppliers involved? Here, we summarize the three alternative paths to take, highlighting both the advantages and risks.

Developing and managing your integration platform yourself

If you choose not to use suppliers but to do the work within your organization, you will face a number of challenges that we've previously touched on in this guide. However, this can certainly be the right solution in some cases. For example, it may be suitable for integrations that do not require major changes and are not so complex nor subject to frequent changes. But if the solution does not suit you, it can become slow to implement and end up costing you more money than necessary in the long run.



Here are some things to consider with this solution:

- **Requires a large investment**
The initial cost can be high, which means it can be difficult to make the investment profitable for smaller organizations.
- **Requires a lot of in-house expertise**
You will have to allocate a lot of internal resources.
- **Requires in-house support**
Remember to include support. You need to build the system and the structure around it in terms of staff, support and skills.
- **Requires a designated owner**
You will have to take great responsibility for keeping the system up-to-date and linking it to external customers' applications as they grow.

Summary

It is a complex solution that offers great flexibility, but also a lot of responsibility. Therefore, ensure you have internal expertise, an initial budget, and adequate support in place to set this solution up for success.



Having one or more partners

Many who choose to own their integration platform seek help from one or more partners for development and support. Several companies offer packaged solutions with different types of services. This means it is not a customized solution for your specific company, but it is a common solution for many who do not want to take full responsibility, even though they own their platform.

Here are some things to consider with this solution:

- Have a clear SLA with your partner – This agreement differs from standard supplier contracts. The most important SLAs to consider are uptime for your integrations, response and resolution times for incidents and timelines for development requests. It is also crucial that your partner takes responsibility for continuously updating the integrations, ensuring compatibility with new versions of the applications you interact with, and so on.
- Have an internal point of contact for the service – Ordering integrations as a service requires fewer internal resources. The responsibility for ensuring the solution works seamlessly lies with your provider. However, internal ownership remains essential, and you should designate a contact person to maintain regular communication with the provider.
- Take control of costs – The “Pay-as-you-go” model means you are billed only for the number of integrations you currently use. You pay for what you actually utilize. Therefore, it’s important to receive clear information about your usage to maintain full cost control.

Summary

You don’t own the platform yourself, but if you require more complex integrations that can be easily adapted over time, integration as a service is an excellent solution for your organization. With the right provider, you can help build the integrations from scratch and have them tailored to your specific needs. This gives you an agile, cloud-based solution that allows for growth. Choose your partner carefully and focus on establishing a clear SLA to maximize your chances of success.

Buying Integration as a Service (IaaS)

Many businesses turn to Integration as a Service to simplify their IT operations and ensure seamless connectivity between systems. Instead of owning and managing a platform, they opt for a managed service that provides the expertise and infrastructure needed to handle integrations efficiently. While this solution offers convenience and reduces the in-house workload, it also comes with specific considerations.

Here are some things to consider with this solution:

- You may pay for more than you use – If you commit to one or more providers, you also commit to their packaged solutions. This could mean paying for parts of the service you don't actually need, which is never a cost-effective approach.
- You become more restricted in your choices – The advantage is that you receive expert assistance and don't need to take on the responsibility yourself. However, the downside is that you are tied to these choices and agreements, which may prevent you from switching to another provider even if they offer a better deal.
- Procurement is your responsibility – Procuring services can be challenging, especially in technical areas where you lack deep expertise. Setting the right requirements is critical to ensure you get the support you need. Always involve someone internally with in-depth knowledge of integration to ensure a successful procurement process.

Summary

By seeking external help, you gain access to experts, support and development. This minimizes the need for in-house personnel and reduces your own responsibility. However, it's important to carefully review contract terms, especially binding periods, to avoid being locked into a provider or solution for too long.



Integration lays the foundation for effective automation

Today, recognizing the value of integration for both business operations and IT support is more important than ever.

With integration supporting the business, efficient information flow can provide better tools for decision-making and management.

The IT department also requires enhanced tools. The growing number of applications and increasing demands from the business side place significant pressure on all functions.

The solution lies in a modern integration platform that automates the complex aspects of the IT environment. This allows resources to be redirected toward problem-solving and collaboration with the business.

An integration platform creates the foundation for automation across applications, development tools, environments and platforms.

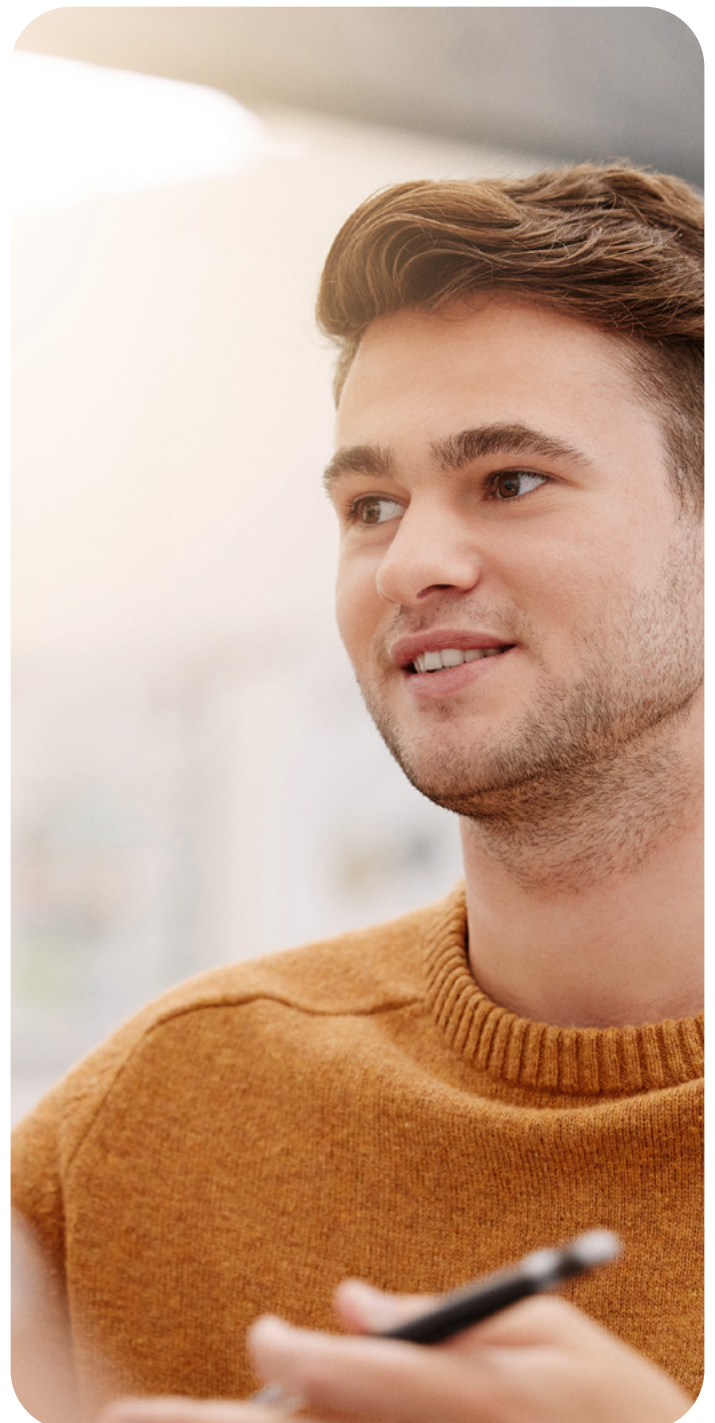
The functions that enable an agile workflow are packaged in a business-adapted format:

- Traceability and logging
- Automation of workflows
- Built-in security

Effective integration lays the foundation for developing features that support the business, as well as automating internal IT support.

With the right information and the right tools, organizations can enhance customer value, drive business benefits and foster overall growth.

Integration is at the heart of innovation and value creation, for both IT and the business.



No automation without integration

How to make wise decisions in a fast-moving world?

Whatever the future holds, we can count on some basic factors to guide decision-making:

- The digitalization journey improves value and customer experience for the end-user.
- Automation relies on the efficient interconnection of systems—integration.
- Collaboration in projects or around products increases the need for information sharing.
- We are becoming more connected—information sharing is a key competitive advantage.
- Technology creates opportunities that transform how we organize our businesses.
- Those who successfully manage change grow profitably over time.



How does this relate to the choice of an integration platform?

- Think flexibility – New ways of working will impact the business in ways we cannot predict today.
- Think openness – All stakeholders connected to the company will need access to information from your operations.
- Think innovation – Technology presents both opportunities and threats from a competitive standpoint.
- Think focus – Owning systems comes with both advantages and disadvantages. It's essential to find the right balance between IT and the rest of the business.

Ultimately, it's your unique characteristics that determine which solution is the best fit. Let's have a discussion together, and we'll share our experiences from 20 years of working in the integration field, including how similar challenges have been solved for other organizations.



Integration lays the foundation for composable business in the cloud

Today, businesses need to adapt quickly to changing conditions—without long lead times or high transformation costs.

The term “composable business” reflects how an organization can be as flexible as possible. Functions within the company are adapted to meet new market demands.

A prerequisite is that work methods, architecture, and technology go hand in hand.

Many organizations already have experience with various functions being handled differently:

- Payroll is managed by an external provider.
- Customer support has been moved offshore.
- Product packaging, loyalty programs and logistics planning have been outsourced.

This type of reorganization has historically required significant time and resources. As the need for change accelerates, organizations face new demands for faster, more cost-efficient adaptability.

Regardless of the need, the flow of information must remain uninterrupted.

With a modern cloud-based integration platform, the information flow is secured, no matter which application or infrastructure your data is stored in.

Epical’s Integration as a Service enables you to seamlessly connect integrations across different environments.

Information from various sources is made available in the right format, in the right application. Simultaneously, Epical ensures a robust security framework for the information being transmitted. This type of flexible integration solution makes it easier for your organization to accelerate innovation, maximize productivity and ensure growth over time.

Perhaps a flexible, secure, and agile service is exactly what your organization needs in today’s complex and modern IT landscape? No matter your curiosity, don’t hesitate to reach out to us—we’d be happy to tell you more.



Small cloud dictionary

The cloud

Centralized IT infrastructure (application operations, storage, network) used by one or more organizations. Often established by a large provider (Amazon, Google, Microsoft, IBM) and offered as a service, where customers pay either a subscription fee or for actual usage of capacity.

Managed service

A capability or capacity (e.g., storage or application operations) that is purchased and consumed in a service format. A technology partner/provider handles platform updates and operations, and provides support according to agreed-upon levels.

Public cloud

Cloud services provided by a third party over the internet.

Hybrid cloud

A combination of cloud services that are partly in the public cloud, partly in a private cloud, or on-premises infrastructure.

Private cloud

Cloud infrastructure where underlying resources are dedicated to one organization (resources are not shared).

Sovereign cloud

Cloud infrastructure where underlying resources are guaranteed to be located within a specific geography and jurisdiction.

DC

Data Center

On Prem

On premises, locally managed infrastructure. A server located at the organization's office.

SaaS

Software as a Service. An application that is accessed and run via the internet, as opposed to being installed locally on-prem or on the user's computer.

iPaaS

Integration Platform as a Service, a cloud-based integration platform offered as a managed service (operated application).

DMZ

"Demilitarized Zone," a part of the organization's network that is accessible externally.

Proxy

A forwarding intermediary for network traffic.

VPN

Virtual Private Network. An encrypted network connection, dedicated between communicating parties.

Towards a future *we can all trust*

Our expertise is data, our product is trust.

Epical is a Nordic data consulting company specializing in areas such as data and analytics, security, applications and integrations. Together with our 400 digital experts, we support and enable the management, application and protection of our customers' data. We see the responsible use of data as a powerful tool to create positive change in the world, helping us solve some of the most pressing challenges for our customers and society at large.

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