

3 Pillars of Cloud ERP

Evaluating Public, Private and Hybrid
Cloud ERP Solutions for Your Business

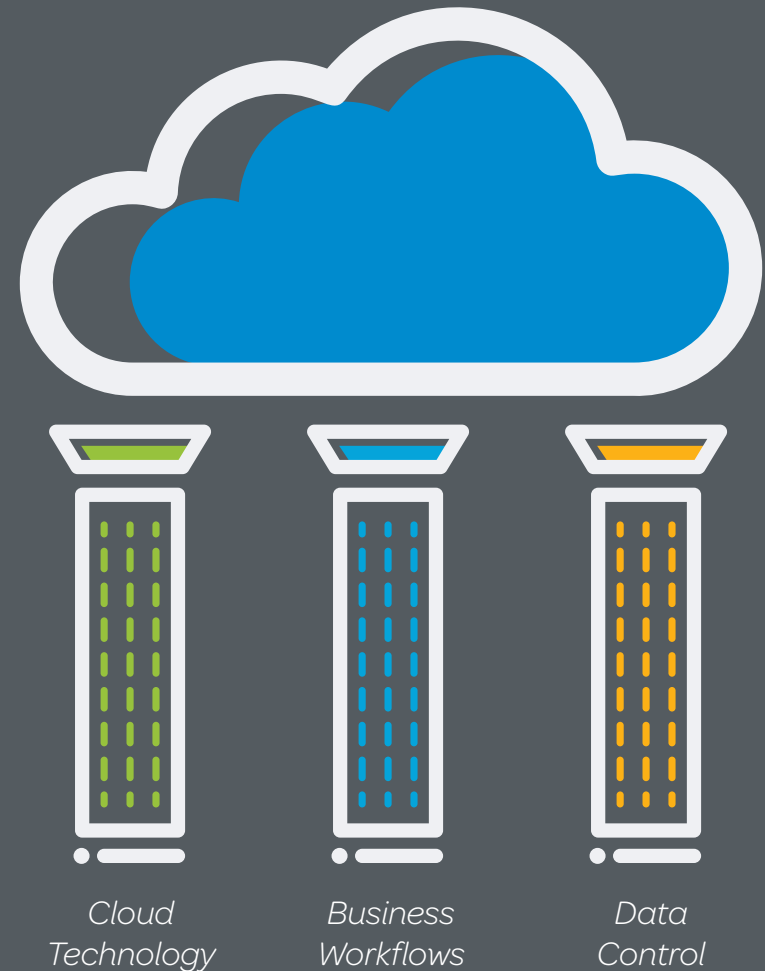


We hear a lot of talk about ‘the cloud’, as if it’s one singular approach to data storage. It’s not that simple. There are different approaches to cloud and each one comes with its own advantages and disadvantages, particularly within the context of a specific type of software. You might use a public cloud email marketing software (like Mailchimp), but that doesn’t necessarily mean that a public cloud solution is appropriate for other business systems, like your ERP (Enterprise Resource Planning) solution.

Many companies jump to the conclusion that ‘true public cloud’ (SaaS) is a must-have. But choosing a cloud ERP solution isn’t ‘one size fits all’. It’s simply not enough to understand the benefits—and drawbacks—of each cloud delivery model. You need to consider factors beyond the technology, like your business workflows and how much control you want to have over your data.

This is what we refer to as the *3 Pillars of Cloud ERP*. Each pillar requires equal consideration in your evaluation and implementation to ensure you have the best fit solution for your needs.

We're talking about a mission critical system that will run your entire business, so it's important to get this decision right. We understand it's not a simple, straightforward evaluation. That's why we've created this guide to help you understand the factors that should inform your decision and find the cloud ERP solution that **best fits your business**.



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When you're evaluating ERP systems, you should give the delivery method the same consideration that you give the software itself. Do you go with a public cloud model? Is private cloud more appropriate for your company? And what about the hybrid approach, where you get a mix of both?

Understanding the technology piece is the first step in your evaluation. Let's explore what each option looks like in the context of an ERP solution, along with some pros, cons and considerations.



Public cloud

A third party provides application hosting, storage and other resources via the internet.



Private cloud

A private network hosts services and infrastructure for a single company.



Hybrid cloud

A blend of public and private cloud applications and infrastructure.

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What most people think of when they hear ‘cloud’ is public cloud, where a third party provides application hosting, storage and other resources to users via a web browser. Public cloud is a multi-tenant model, meaning more than one company’s system is running in the same technical environment.

There are certainly benefits to a public cloud ERP solution. Easy accessibility from any location through a web browser is certainly at the top of the list. The ability to scale up capacity during peak times by leveraging shared computing resources is a close second. Offloading the IT infrastructure and maintenance is also a plus, particularly for small to medium sized organizations.

However, these benefits need to be weighed against the drawbacks of a public cloud ERP. First and foremost is data security and privacy. Given that public cloud environments share resources across companies, users have no control over how their providers implement cloud security. This same concern applies to data integrity; if a corruption event occurs, it can affect all users sharing the database. That’s not to say that public cloud is a poor option, but simply that you should carefully consider the provider you choose and the security implications for your business, particularly if you deal with highly sensitive data.

Private cloud

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Private cloud also offers application hosting, storage and resources to users, but the environment is dedicated to a single organization. These services operate similar to an on-premise datacenter that users can access through virtualization technologies, making these hosted applications available to users as if they were on the local office network.

With a private cloud solution, you get the agility, scalability and efficiency of the cloud, while addressing some of the security concerns that come with using public cloud.¹ Having dedicated hardware for your organization gives you the same peace of mind that you would have with an on-premise solution. You can point to a group of dedicated virtual servers in a datacenter and say “that’s our data and no one else’s”. This type of environment also lessens the chance of data corruption events as your company’s data is maintained separately from others. And you still reap the benefits of outsourcing the IT infrastructure and maintenance required to support your ERP system, lessening the load on your own team.

Depending on user requirements, accessing your ERP system through a virtual network can be a drawback for some companies. For example, if you have sales representatives on the road, connecting to a VPN (virtual private network) to access the system could be a bit cumbersome, compared to accessing a web browser or an app on their phone.

Even with that in mind, private cloud is still preferred 2:1 over fully managed public cloud solutions, according to a recent Yankee Group survey on Cloud Computing.² And these types of challenges can be easily addressed with the shift to a hybrid cloud solution that allows you to leverage both public and private cloud solutions where they make sense.

Hybrid cloud

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Hybrid cloud is precisely what the name suggests – a combination of public and private cloud, and in some cases, on-premise components. This allows companies to leverage functionality in both a desktop and web environment, and keep functionality and associated data where it's best suited.

If you take a quick inventory of the various tools and systems you use in your business today, you'll likely find you're already using a hybrid approach. One of the best-known and most easily understood examples is Microsoft Office 365. You install the software on your computer (locally) but are using the Office 365 public cloud service for email and file storage. You always have the option to access the same Microsoft applications in a web browser when you need to do "just one more thing for work" from the hotel business center on your beach vacation. To complete the picture, even though your files are stored by Microsoft in the public cloud, your own computer retains a local copy automatically, using a concept called edge computing, so you can access files quickly, even when disconnected.

Looking specifically at your ERP system, a hybrid cloud solution offers the flexibility to adapt the delivery model to meet the needs of your users. It truly is the best of both worlds. You get the flexibility, scalability and cost-effectiveness typically associated with public cloud, while maintaining the security of private cloud for mission critical data.

What is edge computing?

Edge computing brings the cloud to you by performing data handling at or near the source of the data, instead of relying on the cloud at a datacenter to do all the work.

What do your users need?

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Your ERP system touches all areas of your business, so you need to consider the processes and workflows of every department in your evaluation. This doesn't mean just looking at the functionality your teams need. It's equally important to consider the way they consume data and interact with the system.

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Think about the various system users in your organization. What's the user role? What kind of processing power do they need to work effectively?

Let's look at a few real-world examples to help paint the picture.

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Your accounting team will typically be the 'heavy users' in the organization. They spend the bulk of their day in your ERP system, processing a high volume of transactions. They will likely be most efficient using a rich desktop application that allows for rapid data entry and review of large amounts of information. The same might apply to your purchasing team.

Your sales team, on the other hand, is likely looking for a simple, easy-to-use interface so they can quickly update contact information, track activity as they're making their sales calls and add new opportunities to their pipeline. The same desktop application your accounting team uses may not make sense in this context. Particularly if they're on the road, your sales team will likely prefer using a simple application they can access from a web browser. They might even ask for a mobile app for even easier access to information.

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The same applies to field service users who are on customer sites. They'll want a quick easy way to add time, materials or expenses to the job as they're doing the work. For them, the phone in their pocket will likely win the day.

And let's not forget your management team. They may want easy access to a dashboard that provides a good overview of the business, perhaps in a web browser. At the same time, they might want a live link of data from Microsoft Excel for a more in-depth analysis of business performance, without having to login to your ERP system.

This truly is a blend of user experiences. The key here is that the data from all users is feeding into your ERP system, even though the interface is tailored to their role.

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How much flexibility do you need?

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Many of the ERP solutions in the market today are well equipped to handle standard business processes out-of-the-box. But what about those that are unique to your business? Not all ERP systems are equally equipped to handle these special situations.

Take a quick inventory of the workflows across your business. How many fall into the 'unique' category and may require additional configuration or integration with other systems? Are these mission critical processes? Is there opportunity to adjust the workflow to use standard functionality?

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The answers to these questions can have a significant impact on your choice of cloud model. If your processes are relatively simple and can be handled with standard functionality, public cloud will suit just fine. You'll even be able to integrate with a selection of other systems. However, if you have truly unique processes that require a high level of configuration or custom module development, private or hybrid cloud is likely a better fit.

For example, you might require direct integration with shop floor hardware, like automated high-volume pick and pack equipment in the warehouse, or manufacturing equipment that provides performance or quality control data that you need to track in your ERP. Integrating this type of equipment will be much more straightforward with a private cloud or hybrid ERP environment. The same applies if your processes require a custom module, like a tablet app for shop floor staff to capture quality control data or specific production data that requires a direct integration with your ERP solution. In both cases, deploying these solutions with a public cloud ERP will be more involved, and you will be more heavily reliant on your ERP provider.

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You might also consider cases where people outside of your ERP need access to data generated by the system. The simplest example would be electronic documents that are traditionally stored on a file server – Microsoft Word documents, Excel spreadsheets, PDFs, and so on. Traditionally these documents either reside fully outside of the ERP on a file server, or somewhere within the ERP where only ERP users can access them. But what if you could view—or better yet, create—these documents within your ERP system, in the context of the transactional ERP activity, and make them available to external users across the organization? Or conversely, what if ERP users could consume documents that originate outside of the ERP system but are meaningful in the context of a customer or vendor transaction (e.g. customer, inventory record, etc.).

This is a great example of a hybrid approach. Organizations are increasingly using Office 365 technologies (or similar alternatives such as Google Docs) and integrating directly with their ERP platform of choice. Once again, this is typically much easier to accomplish with a private or hybrid cloud ERP solution. Why? Because you have more control over your entire ERP environment as compared to public cloud.

Long story short, the more flexibility you need with your ERP solution, the more likely that a private or hybrid approach is a better fit. If your business is more straightforward, a public cloud ERP solution may be more attractive to you, provided that the other criteria we've discussed lines up appropriately for you.

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There are many advantages to public cloud solutions; however, many see the lack of control as a drawback. Every company will have a different perspective on this, but you should give serious thought to how much control you want to have over your ERP system. For businesses that deal with sensitive data, the answer will be clear. For others, it might be more of a grey area.

Control over data is often an aspect that's overlooked in the evaluation, as people are thinking about their more immediate needs. When you start thinking ahead to where you'll be in five to 10 years, the conversation changes.

As you're evaluating cloud ERP solutions, ask yourself the following questions:

1. How can you get your data, in what format and at what cost?
2. Where is the data located? Does it matter for your business?
3. Do you have flexibility to change hosting providers?
4. Can you control when you upgrade to new versions?

How can you get your data, in what format and at what cost?

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ERP data involves a series of complex relationships between master data (e.g. customers, vendors, inventory items, chart of accounts, etc.) and various types of transactional data (e.g. purchasing, sales, service, production, and so on). When it comes to accessing your ERP data, there are two main considerations:

1. Reporting from your current system

When it comes to reporting on your ERP data, the options tend to be fairly consistent, regardless of whether you're in a public cloud, private cloud, or even an on-premise platform. If you have other systems that you need to report data from in conjunction with your ERP, it can be a little more tricky with a public cloud ERP compared to other deployment methods. It's not impossible, but expect that your provider will have to make some additional provisions to connect the data sources.

On-premise

The ERP software is installed and maintained locally, at your physical location, and made available to users on your local network.

2. Options for accessing your data if you eventually migrate to a new ERP

On the topic of control, access to your data becomes more of a conversation when considering what's involved to migrate to another solution in the future. This should only occur if you outgrow your solution, or if it simply doesn't meet your needs as expected, but when selecting your ERP solution you should always understand your exit options.

In the case of public cloud, your data is housed in a multi-tenant environment. At best, you can expect to have your data exported as a series of spreadsheets that may or may not be complete. Users have told stories of more difficult circumstances, including paying tens of thousands of dollars to obtain a copy of

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their ERP data from a public cloud ERP provider. It really comes down to the terms and conditions in the contract you sign when you start. Always read the small print and understand specifically, in writing, how you will obtain your data should you decide to migrate to another ERP in the future.

In the case of a private cloud ERP, it is technically much more simple. Options can range from obtaining a copy of the ERP database to being provided with copies of the full “virtual machines” (i.e. the servers) that are running your ERP system. The great thing about this is that you not only have access to your data more readily, but you can also move your existing solution to another private cloud provider with minimal fuss. Again, as is the case with public cloud, you should understand the related contract terms. The long and short of it is that accessing your ERP data and migrating it elsewhere can be much more straightforward with a private cloud solution.

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Where is the data located? Does it matter for your business?

Depending on your line of business, you may have requirements to maintain your data within Canada. This may or may not be possible with public cloud solutions, depending where their datacenters are located. Furthermore, the US Patriot Act can allow the US government to access data on servers outside of their borders, if the datacenter is owned by a US-based company.

Even if this isn't a business requirement, some companies appreciate the peace of mind knowing where their data is housed.

Do you have flexibility to change hosting providers?

With a public cloud solution, your system will be hosted in the ERP publisher's datacenter until you move away from the solution. Given that this is the core system for your business, you'll want to be confident that your ERP provider is a good fit for both your current and future needs, and will be around for the long-term.

By comparison, a private cloud solution offers much more flexibility. If you aren't happy with your hosting provider, for one reason or another, you have the option to move your system. You retain the software and all your data, so you can move to a different datacenter at any time.

Can you control when you upgrade to new versions?

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Staying current on the latest version of your software is typically recommended for many reasons. You get access to new features and functionality, as well as security upgrades and bug fixes. That being said, when it comes to the system that runs your business, you may want control over when the upgrade happens.

With public cloud ERP, you are typically notified that an upgrade will occur, and when. Sounds easy, right? But what if your business has some specialized configurations that should be tested before an upgrade? If the ERP provider's testing window happens to fall during a particularly busy period—like year-end close—you typically have little flexibility on the timing without significant additional cost.

Or perhaps you depend on an integrated third-party solution that is not yet compatible with the new version. You have a timing issue, and if you're forced to upgrade to a particular version of the core ERP, you may have some components of your system that simply won't work.

A private cloud solution, on the other hand, offers the flexibility to decide when it makes sense to upgrade. You can schedule it around the ebb and flow of your business to avoid interference with peak periods, and ensure you have adequate time for testing.

You're can also ensure that all dependent systems and processes are coordinated so that operations aren't impacted. If you need to integrate your ERP with specific hardware in your facility, such as printers, warehouse management equipment for scanning or optimized pick and pack, or specific equipment on your manufacturing shop floor, trying to coordinate this with a public cloud ERP may prove difficult. With private cloud, you are in control.

What's the right choice for your business?

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As you can see, moving to the cloud isn't a simple, straightforward decision. The best fit cloud ERP solution for your business will be heavily influenced by your business workflows and requirements. For most companies, a hybrid approach will likely tick all the boxes. In fact, Gartner predicts that 90% of organizations will have adopted a hybrid IT approach by 2020.³

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A hybrid cloud approach allows for a best-of-breed approach, leveraging the tools and user experiences that are best suited to your users, their roles, and the locations where they do their work. Integrating these systems is key to the success of your ERP system. This might seem like an idealistic scenario, but it's achievable with solutions in the market today. You may not want to settle for less.

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From a technology perspective, this very quickly becomes complex, but it's completely invisible to users and keeps their experience extremely simple. As far as they're concerned, the system is simply available to them on the local network in the office, or in the field when needed. The complexity is kept in the background – to the user, "it just works."

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So why do all of this? Why not just keep everything on a local server, or fully in the cloud? A competent IT partner will help you navigate your way through the details, but here are several reasons to go the hybrid route:

- ▶ To provide your users with precisely what they need; there is no single solution that does it all – that is merely sales-speak
- ▶ To allow your business to flex and adapt easily as it grows
- ▶ To leverage best-of-breed tools that will allow you to be competitive, in a way that's cost-effective


The technology landscape for business is becoming increasingly complex, but it's completely manageable leveraging public, private and local technology solutions in an integrated, hybrid manner. The goal is to give your users the most efficient experience possible based on their roles, while keeping the technology simple and cost-effective.

Sources

¹ Butler, B. & Greene, T. "What is private cloud? [And some things it's not]," Oct. 16, 2018, www.networkworld.com/article/2159885/cloud-computing-gartner-5-things-a-private-cloud-is-not.html

² Otava. "Top 5 reasons why your company should transition to private cloud computing," Apr. 11, 2019, www.onlinetech.com/resources/references/top-5-reasons-why-your-company-should-transition-to-private-cloud-computing

³ Gartner Inc. "Gartner says a massive shift to hybrid infrastructure services is underway," Apr. 5, 2017. www.gartner.com/en/newsroom/press-releases/2017-04-05-gartner-says-a-massive-shift-to-hybrid-infrastructure-services-is-underway



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