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IaaS vs PaaS vs SaaS vs XaaS

As-a-service may be something you're already familiar with, but do you know the differences between them? In this blog, we'll cover what they are, how they're different, plus a few examples and why choosing the right managed service provider is so important.

Let's dive in.

IaaS

IaaS (infrastructure as a service) is cloud infrastructure services that's made up of scalable, compute resources. It's fully self-service and gives businesses the opportunity to buy resources as and when they need them.

Through virtualisation, IaaS gives you cloud computing infrastructure, including servers, networks, OS and storage. You get full control over the infrastructure and have the same tech as you'd get in a data centre. However, you don't have to maintain all of it yourself. It's all outsourced through the cloud.

Unlike SaaS or PaaS, with IaaS you as the client are responsible for managing:

· Applications
· Data
· Runtime
· Middleware
· OS

And a service provider would manage:

· Virtualisation
· Servers
· Storage
· Networking

So, why would you choose IaaS?

· Flexibility – you can easily scale your IT resources up and down with demand
· Reduce CapEx – IaaS is typically a monthly operational expense
· Pay for what you use – fees are calculated from usage-based metrics
· Support a business-growth mindset – leveraging IaaS allows a sharper focus on growth rather than technology decisions.

If you're a small company, you may prefer IaaS, as it means less time spent on purchasing and configuring hardware and software. The downside to this is that your staff may need additional skills and experience which would require training, or you may need to partner with a managed service provider.

A larger company might prefer the control they get with IaaS, only buying what resources they need. And because IaaS offers such high scalability, it's a great choice for a company who's anticipating fast growth in the future.

Some companies may need to provide additional training to employees for managing the applications, OS, and data, as it's self-service. Investing in staff upskilling to such a high level in this area may not be feasible or desirable. Using a managed service provider would mitigate this issue, as the daily handling of infrastructure would be outsourced, rather than dealt with internally.

PaaS

PaaS (platform as a service) provides cloud components for software using applications. It can be customised and managed either by the client themselves or by a managed service provider.

With PaaS, you're responsible for managing:

- Applications
- Data

A service provider manages:

- Runtime
- Middleware
- OS
- Virtualisation
- Servers
- Storage
- Networking

SaaS and PaaS have very similar delivery models, except that with PaaS you get a platform for software creation, rather than delivering the software over the internet. Developers then are able to focus on building software without looking at OS, updates or storage.

So what are the main benefits of PaaS?

- High scalability – you can easily scale up your resources as and when you need to
- Less patching – updates are rolled out on your behalf, helping reduce vulnerabilities and enabling new features
- Easy migration - the service provider can assist with this, so the migration will fit around your business schedule.
- High availability - platform providers will guarantee levels of availability
- Cost-effective – the deployment and development of applications is simple

PaaS can be helpful for simplifying workflows and provide flexibility for entire processes. If a client needs customised applications, PaaS is great for that too.

However, like with IaaS, PaaS comes with its own data security issues. Any data managed by a third-party is out of the clients hands, so it's important the provider has robust tools and processes in place.

Another issue faced with PaaS is vendor lock-in. The requirements first set up with PaaS may not be applicable in the future, and migration may not be an option. It's something to watch out for and to bear in mind as to whether your initial solution will see you through into the future.

SaaS

SaaS (software as a service) is the most commonly used option. It uses the internet to deliver applications, managed by a service provider, to its users. They don't require any installations as they run directly in the client's browser.

As a SaaS business, you don't have to manage anything yourself – a managed service provider can do all of that for you.

The lack of self-management is one of the biggest benefits to being a SaaS business that's got a high workload already. It takes out a great deal of the stress, extra training, money and security concerns. Being a SaaS business can also be incredibly useful for short-term projects that might not have the budget or time to manage their own infrastructure and software.

However, a SaaS business working with a platform provider should carefully consider these points:

- Integration is a big concern, if the SaaS application isn't designed to follow the usual standards for migration.
- Vendor lock-in, like with PaaS, is something to be aware of. Make sure you understand what happens with your solution when the contract comes to an end, look out for additional costs, and ease of data migration.
- Data security - managing large amounts of data and security risks
- Client's have no control over anything to do with their infrastructure. While this is definitely a benefit in some cases, it does mean that the client has to put their trust in the service provider. This is why it's critical to research SLAs and accreditations of providers like guaranteed availability, ISO27001 and ISO50001.

XaaS

Finally, XaaS (everything as a service) refers to organisations using the 'as a service' method for delivering anything and everything. With XaaS, it's about converting one-time buyers into service subscribers for that provider. Clients should know that their money is being spent well and that they're getting the services they need for their business or project.

For XaaS to be worthwhile, it has to maximise its value for the clients and provide a service full of benefits.

Finding a managed service provider

With many of these options, finding a managed service provider that you can count on is crucial. You need to make sure that you're choosing a provider with a reputation and expertise for providing businesses with everything they need. Look out for what certifications they have, like ISO 27001 or ISO 50001, for security and energy management. It's also important to negotiate SLAs to make sure the provider will meet your business needs now and into the future. If you're planning on growing as a business, you need a provider that supports this.

Vendor lock-in is a big inconvenience to any business, as it makes it difficult to leave. So when choosing your provider, make sure you work with one that uses infrastructure to build on 'open standards'.

At ProActive, we make sure every solution is tailored to your business, so you get exactly what you need and nothing you don't. We'll work to your budget and timeframes, so business continuity isn't affected while we implement your new, bespoke solution.

Our experts are ready to get to know and help grow your business, so give us a call on 0333 111 2000 or book a meeting at a time that suits you.