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Cloud Choice | the way we see it

Minimizing cloud vendor lock-in

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Minimizing cloud vendor lock-in

The promise of speed and agility is a prime motivator for seeking a cloud solution, but can vendor lock-in risks mean your enterprise actually becomes less agile once you've adopted a cloud model?

Deciding to change cloud vendors is usually a measured process driven by evolving business needs. However, the recent legal challenges to Safe Harbor agreements stirred up by the Schrems case could mean that hundreds of enterprises will have to rapidly rethink their cloud solutions or face data sovereignty compliance issues. If you're locked in to a vendor, making a change like this at short notice could be expensive.

This paper examines the specific risks of cloud vendor lock-in and provides practical questions you can ask yourself to help mitigate and manage them.

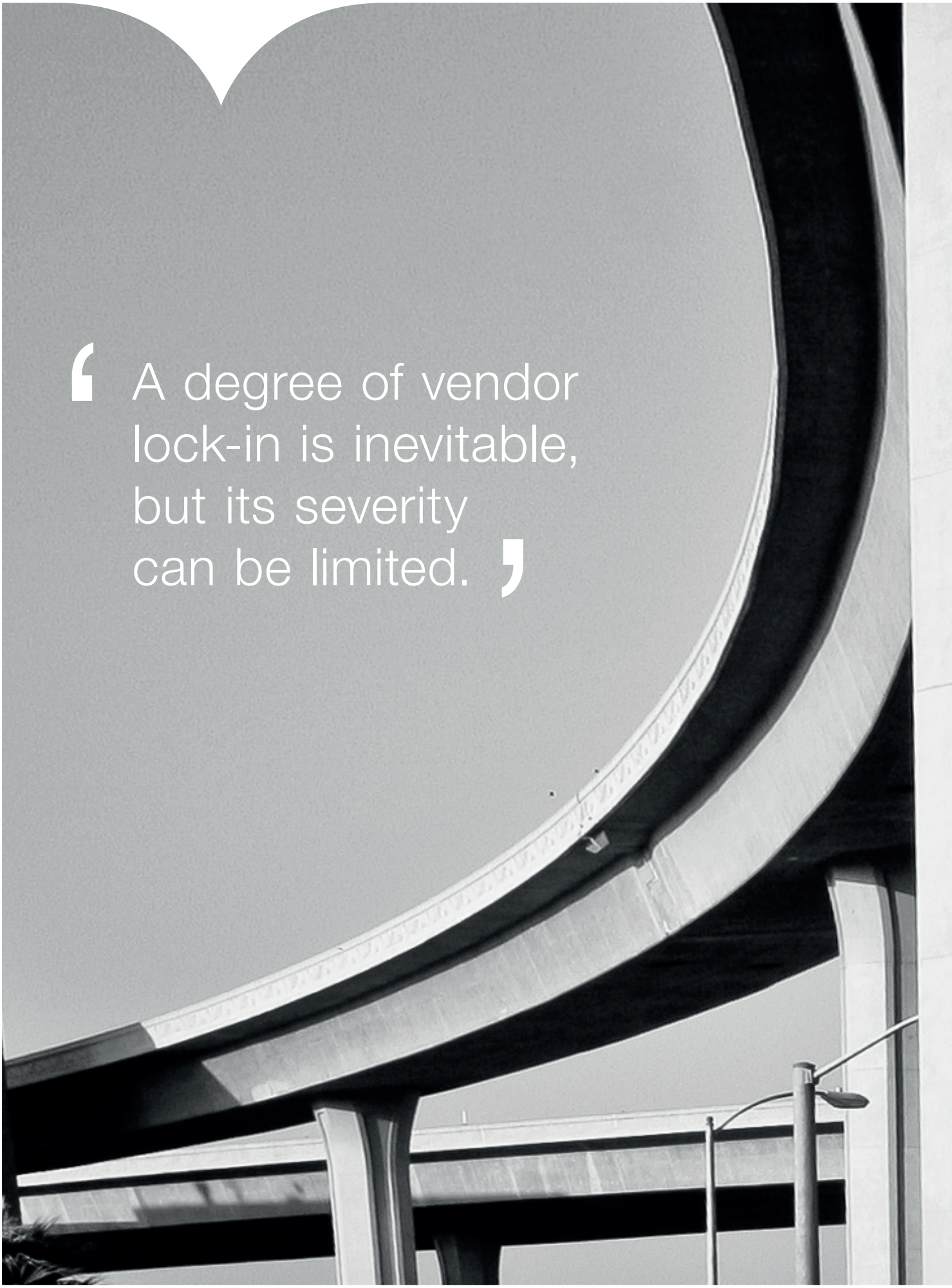
The cloud solution that is best for you now may not be the best in the future. Cloud vendor lock-in can be defined as tying your enterprise to a solution that may be difficult and expensive to change when your needs—and the market—have shifted. The rapid pace of change in digital innovation is what makes cloud agility attractive, but specific cloud solutions can fall victim to that pace of change as readily as anything else.

The time and expense of changing cloud vendors—the lock—may be due to contracts; however, it is just as likely that proprietary prococols, programming interfaces, data structures, or service models render the transfer of applications and data to a new vendor's system the opposite of agile.

Being aware of the factors that can create lock-in is essential to reaping the benefits of cloud while mitigating its risks.

We are currently seeing a variety of approaches to mitigating lock-in risk across public and private sectors. At one end of the spectrum, enterprises are purchasing off-the-shelf Infrastructure-as-a-Service (IaaS) only, with everything else custom-built using open-source components. At the other end of the spectrum is an acceptance of lock-in for areas where the lock-in disadvantages are sufficiently offset by cloud agility advantages, coupled with a belief that market forces will keep the main vendors competitive.

Even limiting exposure to IaaS has its problems, as one of our customers discovered when moving from UKCloud to a large, international vendor. Not only were the virtual machine sizes different, the networking components were also inconsistent, requiring a reworking of the design.



> A degree of vendor lock-in is inevitable, but its severity can be limited.

Questions you should answer to mitigate vendor lock-in risk

1. Have you factored exit costs into your cloud business case?

Customizing your front-end CRM with cloud components can improve agility, but staying ahead of the competition in this key customer-facing area is likely to require a change of components that may not be compatible with what you buy now. What will it cost you to switch vendors at that point?

> The timescale in which this challenge can emerge may be as short as two or three years.

What would have been impossible to imagine just two or three years ago is now increasingly the norm with the adoption of services on Amazon Web Services (AWS) and Microsoft Azure, or Google's cloud platform.

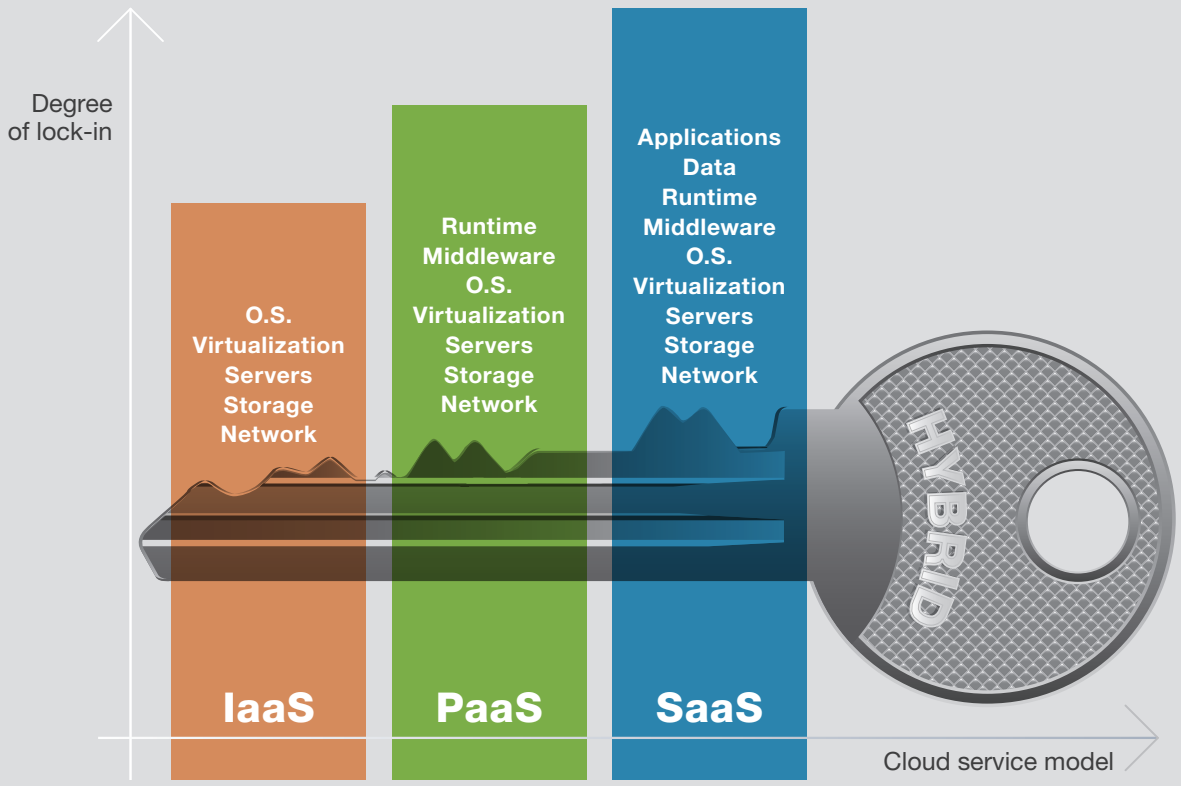
Before committing to a cloud contract, make sure it offers a return on investment in a two- to three-year window. Your cloud value case also needs to account for the cost of migration to, and the exit from, your chosen solution.

2. How hard will it be to move your data and apps?

Data portability is a fundamental factor in costing migration between cloud setups. There are three sides to this concern: the compatibility of data formats, the cost of moving data from one place to another, and security.

Unfortunately, full compatibility does not exist, even between big providers such as AWS, Microsoft, Google, IBM, SAP, Oracle, Salesforce, and HP. AWS and Microsoft Azure platforms, for example, use proprietary standards. You cannot simply move your Linux image to AWS. First, it needs to be transformed into an Amazon AMI build.

> Physical data transfer issues are often overlooked.



The key to cloud vendor lock-in
The relationship between lock-in and types of cloud service

Enterprises are used to data transfer rates in the gigabyte range, but moving all your data (terabytes or petabytes of it) over networks can introduce significant extra cost and time. There is also the question of where you store your data before uploading it to the new vendor's platform.

Security is another data portability concern. It is vital to understand how your data is protected and the methods provided to export or move it. This can produce some challenges, and should be understood or defined during the planning stage. Data protection and data sovereignty legislation, such as the EU's General Data Protection Regulation and the Directive on Security of Network and Information Systems, can also be a factor here. Do you know where your data will be?

Application portability is a big concern now, but data portability may become the priority as cloud solutions evolve because many applications built today using PaaS may well be delivered as software-as-a-service (SaaS) in the near future. Today's differentiating service can become a commodity service in a matter of months. This means that application portability may become less important than data portability, since there will be no need to move applications anyway. For your enterprise, this means identifying the path that will enable you to move your data from PaaS to SaaS with minimum friction.

3. Are you keeping your business rules separate from your software solution?

Your business rules should be defined and documented in a standardized format that can be exported and coded for a new platform. The time spent coding business rules into an application is an investment that needs to be recoverable in the event of migration.

The configuration of an infrastructure-as-a-service (IaaS) based implementation of any complexity also needs to be recoverable. Object Relational Mapping (ORM), a method of translating data between incompatible computing environments, is a good way to ensure the design is portable across vendors.

4. Do you have a long-term cloud roadmap based on business benefit priorities?

The rapidity of innovation in cloud services encourages a short-term perspective.

> "The one thing you can be sure of is that the cloud landscape will look radically different in a few years time."

The best way to address this uncertainty is by keeping the business benefits you want from a cloud solution at the forefront of your planning. Rather than concentrating on which technologies work best now, define high-level strategies that will support those benefits in the long term. It may, for example, be better to accept a more expensive cloud solution that ensures better data portability, and therefore better long-term agility, than a less costly option that delivers what you need now but makes your data difficult to move.

We are seeing many enterprises adopt hybrid cloud models as part of the answer to uncertainty. A multi-cloud environment, using on- or off-premises public and private cloud, not only lessens the financial risk of putting all your IT eggs in one basket, it also encourages you to take a more vendor-agnostic approach to software. Making your application stack independent of the infrastructure reduces the lock-in risk and encourages the interoperability required for the fast migration of workloads.

5. Could an independent cloud service broker help?

Cloud service brokers can provide abstraction and automation between public cloud suppliers. HP's CSA and IBM's cloudMatrix are good examples. However, the cautionary note here is that abstracting away from individual suppliers' platforms to improve portability probably means sacrificing the advanced features associated with those platforms. This can reduce the value of cloud. In other words, cloud brokerage services can limit the pain of switching cloud platforms, but they are not the panacea they often advertise themselves to be.

> "The value of cloud service brokers is often an independent and objective perspective."

The value of cloud service brokers is often an independent and objective perspective that can help you adopt the right solutions for your needs and provide backup in other important areas not discussed in this paper, such as cybersecurity.

Conclusion

Vendor lock-in has always existed with technology providers and cloud vendors are no different. Lock-in risk can always be mitigated by adding technology solutions, such as containerization, but they come at a cost and add complexity. The mundane conclusion is that deciding on the right cloud model will depend on the balance between risk and cost appropriate for your enterprise.

As a general rule, we believe truly open systems will remain a pipe dream, so doing what you can to keep your data as portable as possible is always a good idea. On the other hand, we also expect cloud models to become a central part of production in the long term and that maturity will bring better lifecycle management. We expect vendors to respond to this growing maturity in the routine provisioning and de-provisioning of cloud resources with increasingly effective portability measures.

For more details visit:

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