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📅 February 12, 2020

Run an application on-prem or in the cloud? 10 questions to help you decide

For fast-growing small and midsize businesses, it's never too early to consider the right mix of venues for key apps and data.

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While larger companies are taking a highly strategic approach to where they host applications these days – whether on-premises, in the cloud, or (more often) a mix of both – that's not always the case with small and midsize businesses. Fast-growing organizations simply may not have had time to give it much thought. An older company may have started out with a big investment in on-prem infrastructure and kept to that path. A newer business might have jumped straight to cloud from the start-up stage.

But as companies add new applications and their data accumulates, decisions about where to host workloads become more complex and more pressing for **SMB IT**. The on-prem-leaning company starts to look around to see what workloads it can consolidate and how much it might save by sending those to the cloud. The cloud-native business starts to wonder if it can get better performance, lower latency and more control from privately owned infrastructure.

The right mix of on- and off-prem will be different for every company. There are no universal right answers, but it's helpful to ask the right questions. Here are the ten considerations that I think are most pertinent for SMBs:

1. Will the app be accessed by multiple users from multiple locations? If the answer is yes, your app may lend itself well to a cloud implementation. You would likely be able to deploy new services across your different geos quickly, without having to stand up a new piece of hardware in every location.

2. Are you in a highly regulated industry? Some sectors have rigorous data privacy rules that tend to make on-premises infrastructure the preferred choice. Many healthcare providers are in this category, of course, with their need to ensure compliance with the Health Insurance Portability and Accountability Act (HIPAA), for example. Financial services providers are another group that tends towards private infrastructure in their mix. But whatever industry you're in, it's worth bearing in mind that new regulatory demands are constantly emerging, as we saw with the EU's General Data Protection Regulation, adopted in 2016.

3. Do you need to be able to scale up or down on demand? If so, this may be an easy cloud play. If you're looking for cloud-like scalability for your on-prem infrastructure, you might want to investigate consumption-based IT solutions such as **HPE GreenLake**. This IT as-a-service solution sets up a buffer of capacity at your location in a pay-as-you-go model. You can easily and quickly add or reduce capacity as your needs change.

4. What are your performance requirements for the app? SMBs, just like larger enterprises, are often drawn to private infrastructure for their business-critical workloads and heavy-duty databases where reliably high performance is crucial. The on-prem choice enables you to bypass the potential latency issues with cloud.

5. Can you afford for your app to be down if your Internet connection fails? Software assets in the public cloud are heavily dependent on connectivity, which varies a lot in smaller organizations. I've worked with companies that had three or four backbones straight to the ISP. Not every business can call on that kind of access, however, and most get by with much less. What happens if your Internet connection to the cloud is down? Basically, all you can do is wait for it to go up again.

On-prem infrastructure can fail too, of course, and most small and midsize companies have experienced unplanned downtime when a server goes down. But they may not have given much thought to the potential effects of a network problem on their day-to-day operations in a cloud model.

6. How will the deployment model impact your financials? Placing workloads in the cloud may relieve some of the pressure on capital expenditures by shifting IT costs to the operational side. That's the kind of move that could make you very popular with the finance side of the house.

7. Do you know all the touch-points that the app has to other systems in your organization? If you're considering migrating an app from an on-prem environment to the cloud, or vice versa, it's important to understand where all of the data dependencies are. Data may be coming in from other apps, or from people who you didn't even know were using it. If you're not sure where all the hooks are, it might be better to keep the app where it is. You don't want to break something along the way!

8. How will you manage the deployment? Cloud initiatives can greatly streamline IT operations, and that could be a good reason to go this route if simplifying IT is a priority for your organization.

It's important to remember, though, that cloud deployments still need to be monitored and managed. With on-prem infrastructure, companies are becoming more aware of the wastefulness of "zombie servers" – compute resources that were spun up for a particular project, and then long after the project ended they're still out there chugging away and consuming power resources. It might be easy to assume that the public cloud eliminates that issue. But in reality

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companies often find themselves with cloud-based "zombie virtual machines" on their hands, resources that they're not using but still paying for.

With cloud, as with on-prem, the challenge is to make sure you have a plan to manage your valuable IT assets.

9. What's your cost reduction model? Cost savings are always an important goal for SMBs, and cloud has a lot to offer in this area. You should have a clear vision of success for your cost-focused cloud initiative. What's your initial savings goal versus on-premises – 8 percent? 10 percent? Consider also the total cost of ownership of your cloud solution.

Something to bear in mind is that, because of the flexibility and ease of access that comes with cloud, a deployment that begins small but scales over time can generate a high bill very quickly. Be aware and monitor your costs, and always have a plan in case you need to bring the app back on-premises.

10. Should you deploy your app in both worlds? The best answer to the on-prem vs. cloud question may be to do both. For example, an email service is usually a good candidate for the cloud, but it's also crucial to a company's ability to do business. So you might decide to have your mail server on premises and also have a concurrently running VM in the cloud for failover. If one goes down, the other keeps going.

Keeping your mix right

Finding your right mix of on- and off-prem infrastructure is not a once-and-done deal. It's iterative, something you might want to revisit periodically as your company grows and your business goals evolve. The public cloud is constantly evolving, too. Prices and deals change as the major providers jockey for position in their market. What worked for you one year may not be optimal the next.

Events that trigger a hardware refresh are often a great occasion to review your mix. For example, In January 2020, Microsoft Windows Server 2008 reached end-of life, and many SMBs will be thinking about how that impacts their infrastructure strategies.

Whatever answer you choose to the cloud/on-prem question, HPE has the right solution for you. As a pioneer and leader in hybrid IT for SMBs, HPE can get you where you want to go.

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