



CIO PULSE REPORT

Are Your Crucial Database Workloads Ready for the Public Cloud?

**How to Choose the Right Cloud
Data Option for Your Business**



in association with



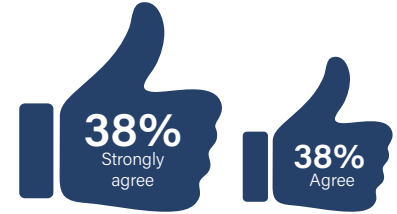
Do you trust critical database workloads to the cloud?

The public cloud is now well-proven for a broad spectrum of business applications. First it was adopted for less critical uses, such as video-conferencing or file-sharing, sales tools or simply hosted email. Then came a second wave, of new applications built on modern cloud-native infrastructures.

Today, a third wave of cloud adoption is underway, with organisations selectively moving existing business-critical applications and their underlying storage infrastructure to a public cloud, including some applications based on traditional high-performance relational database stacks.

But how do you decide what to move and where to? Public clouds certainly offer differing economics, elastic resources, greater flexibility and so on, but how useful will these be to any given application, and is this a safe move to make? What are the different routes that you could take and what do you need to be aware of, such as potential pitfalls?

How much do you agree or disagree with the following statement?



We are committed users of the public cloud

To help answer these questions we turned to the members of CIO WaterCooler, with a survey to draw out their attitudes to, and experiences of, running critical database workloads in a public cloud. Our 77 respondents confirmed what we've found in many past surveys, which is that most organisations are already committed users of public cloud resources. To learn what else we discovered, read on...

Facing up to the on-site challenges

Many businesses have run critical workloads on-site for years. Sometimes these can be re-engineered to run cloud-native to meet changing needs, but often there's a fear of disturbing a complex yet working system, which has kept them on-site.

The constraints governing these placement decisions are changing, however. Many traditional enterprise-class database and storage platforms are ageing, and along with changing requirements and usage patterns, it means more of these applications are coming up for re-platforming.


So it's not just the pull of the cloud that is tempting application migration. There is also a push factor as it becomes apparent that the existing on-site infrastructure within many organisations is itself presenting challenges.

And although the challenges shown here might look minor individually, these on-site problems do not appear in isolation.

Instead they add up, as our survey respondents confirmed. In fact, we saw that 68% reported at least one significant on-site infrastructure problem, 56% had two and 43% reported three or more.

Clearly, all is not quite healthy in the world of on-site database and storage infrastructure.

Problems currently experienced with existing on-site database and storage infrastructure

 Management of service levels to the business

- Handling fluctuating workload demands
- Unpredictable storage performance
- Troubleshooting when problems occur
- Availability challenges and/or outages

Significant Problems



Moderate issues and distractions



Management of change and evolution

- Refreshing equipment at end of life/support
- Capacity planning related issues
- Moving data within the infrastructure



Resources, costs and accounting

- Cost and availability of operational staff/skills
- Lack of support for usage chargeback

29%

23%

21%

20%

51%

29%

19%

35%

13%

47%

51%

59%

51%

30%

53%

52%

48%

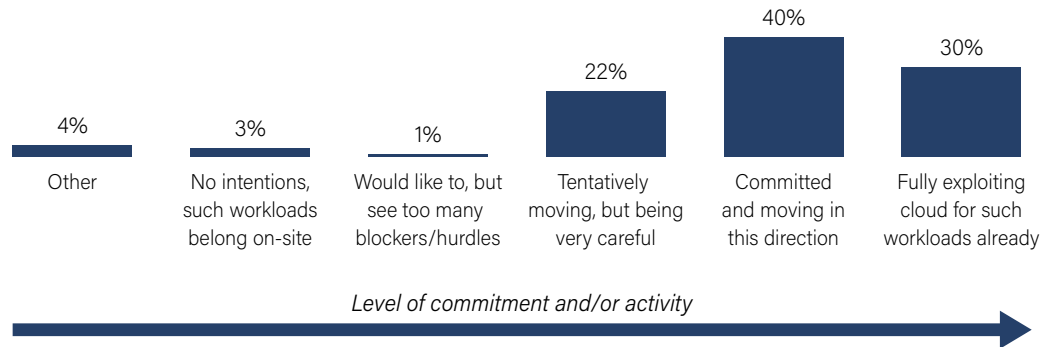
32%

Destination: Public cloud

Not too surprisingly then, the majority of our respondents said they had ambitions to move workloads of this type to the public cloud. Indeed, almost a third of our respondents said they're already fully exploiting public cloud for business-critical database workloads.

Crucially, this shows that we have a relatively progressive sample here, meaning that we have people we can ask practical questions of, and whose experiences we can learn from.

How would you sum up your ambition and progress regarding the movement of high-performance, business-critical database workloads to the public cloud?



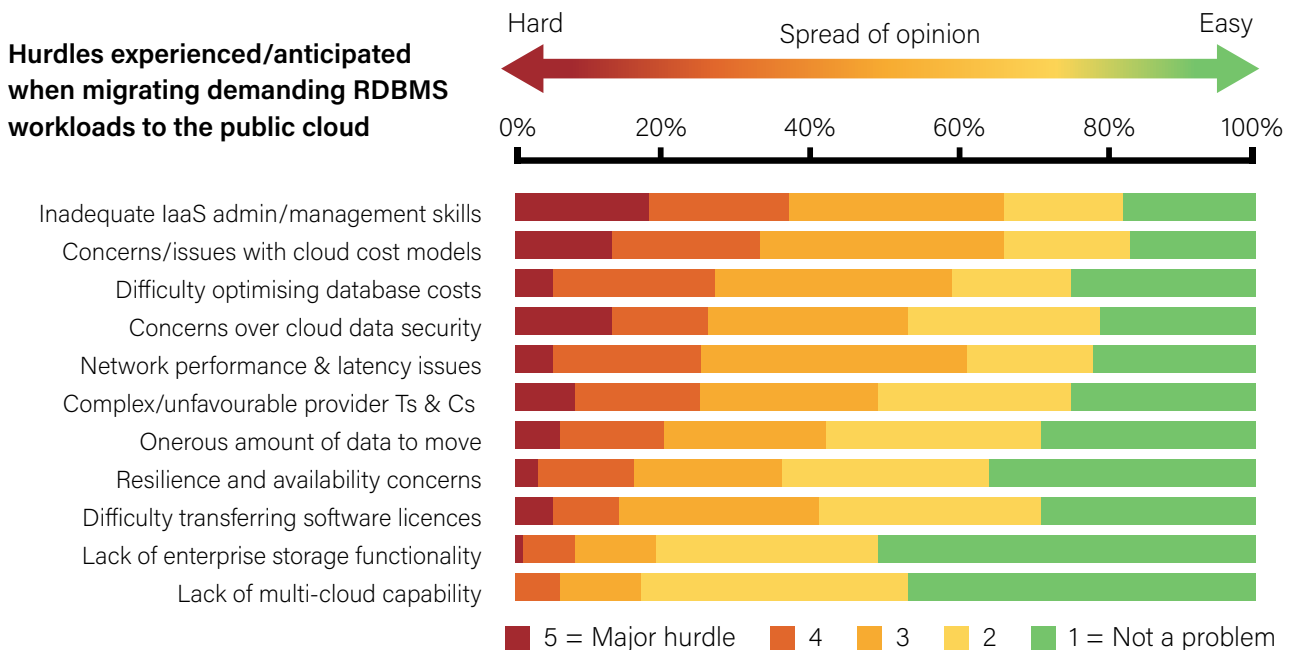
So if you have yet to start on your third wave of cloud migration or are still working on it, this

paper can take you through what matters and why, based on the experiences of your peers.

So why are some still hesitating?

While they might be happy to use cloud-native tools and apps, anecdotal evidence suggests that many IT professionals remain doubtful or uncertain about re-platforming existing enterprise applications on public cloud. For example, they may find it hard to believe the same storage performance can be achieved in the cloud, or they worry about being over-dependent on network reliability and latency. Or they may have seen horror stories regarding unexpected bills and cost overruns.

To show how widespread these worries are, almost three-quarters of our respondents expected or had experienced at least one hurdle in moving critical database workloads. Yet when we drilled down into the individual challenges, we saw that in every case bar one – the issue of skills shortages, which is common to many areas of IT – many more said it was not a problem than said it was a major hurdle.



The reality is that, if planned well, older database applications can be moved to public cloud like any other applications. Certainly there are things that need proper attention but our respondents are clear that none of the potential hurdles are insurmountable.

Finding a practical route forwards

Turning to planning and decision making, we asked our survey respondents what their key requirements were for evaluating public cloud-based storage for relational database work. Two stood out as essential: performance and scalability, and availability and resilience.

When we included the good-to-have features, four more popped up as significant: flexibility and change friendliness, the speed and ease of provisioning, support for evolving application needs, and ease of capacity planning.

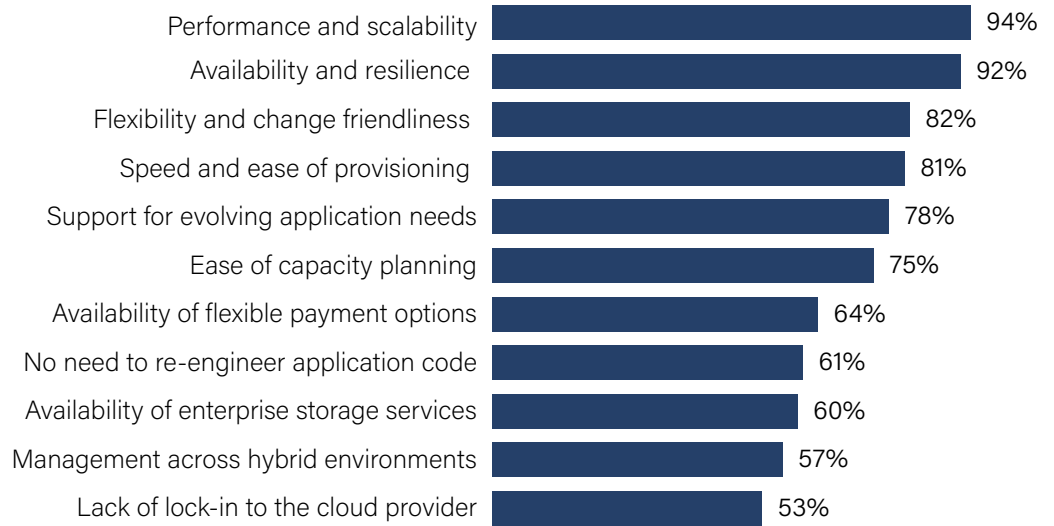
All of these – and the others in our list – can of course be achieved in a public cloud. The challenge is doing it without having to spend a lot on your cloud storage service to get the capability and performance you need, and without getting your data locked in to a single service or cloud.

However, when we used a subsequent question on future needs to dig a bit deeper, it became clear that while the 'top factors' above are important, they are 'table stakes', and they are not necessarily the key differentiating factors that you need to consider when choosing a cloud data option.

For example, whether they were already fully-exploiting public cloud or were still on their migration, most respondents said that they needed more visibility into and optimisation of their cloud database and storage infrastructure.

A similar proportion echoed the importance of flexible payment options but noted that more was needed here, and fully two-thirds identified the requirement for platform capacity to be able to ramp down as well as up, as database workloads fall and rise.

Factors considered when evaluating public cloud-based storage to support relational database workloads



We need to optimise or improve:

<i>Service level management</i>	<i>Strongly agree or agree that this is a priority</i>
Ease of scaling up or down as needed	66%
Cloud storage performance	59%
<i>Financial/cost management</i>	
Database licensing costs in the cloud	56%
Cloud database infrastructure costs	55%
Ease of CapEx/OpEx switching	53%
Visibility into cloud storage use	49%

**CLOUD
DATABASE
IMPERATIVES**

Important to consider these as you evaluate current systems and replatforming options

In conclusion: get the data platform right

Predicting the future is easy, but predicting it accurately is hard work. That's especially true given that you have such a diverse range of options available for migrating business-critical relational database workloads into a public cloud.

One thing we can be sure of though is the future will not be uniform, and that you will very likely want to move at least some of those workloads to the cloud. A minority may be able to settle for "business as usual" on-prem, but this is unlikely to be an option for the majority – particularly if you expect your application and data needs to grow, or want to better optimise your workloads' cost and performance.

The problem is that the mainstream public clouds were not built to run legacy enterprise applications, and similarly, that mainstream relational databases were not originally designed to run in the cloud, even when repackaged as VMs.

Look beyond what comes as standard

To close the gap, you will almost certainly need to look beyond what the cloud providers offer, and the key here is most probably going to be the cloud data layer or platform.

Adopting a data platform that sits at the cloud layer, but is independent of specific cloud providers, allows you to avoid lock-in. It should enable you to both achieve availability and resiliency, and meet your capacity and performance needs, without expensive over-provisioning.

A cloud data platform can also help simplify data movement, and bring the visibility and analytical capabilities of the cloud to enterprise applications, while simultaneously adding enterprise-grade infrastructure management to cloud resources. The result? Something that looks and feels like the same experience you're used to on-prem, but has all the added benefits of life in the cloud.

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The CIO WaterCooler is a free, open and supportive community that supports its users in sharing their knowledge and experience with their peers around the world. We help our members raise their profile, share their news and views and allow to keep up to date with the developments fast pace of change and technology.

For more information, visit www.ciowatercooler.co.uk

About Silk

Silk is the database supercharger – the smart platform that delivers game-changing database performance without changing a thing about your underlying apps or database infrastructure, whether you're running real-time transactional workloads or analytical workloads – so your entire stack runs 10x faster. And with always-on availability across regions, zones, and clouds, your databases keep going strong no matter what the cloud throws at you. Industry leaders like Priceline, Cisco, and Telefonica rely on Silk for unlimited cloud flexibility, unbreakable data resiliency, and the greatest database performance of their lives.

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