



Find Your Path to the Cloud

A dbInsight white paper for Redis

Trigger

Enterprises are flocking to the cloud. Once regarded as a platform for running transient workloads such as test/development, today the cloud has become the default target for launching new applications. Increasingly, enterprises are looking to the cloud to run their core mission-critical systems.

Our take

The attraction of the cloud is attributable not only to economics (the cloud allows companies to shift their computing budgets from capital expenses to operating expenses), but also to its operational simplicity. Thanks to that simplicity, enterprises gain agility as they shrink the time-to-benefit from new or re-platformed applications.

But not all cloud services are alike. Managed cloud services provide the biggest bang for the buck when it comes to delivering on the promise of operational simplicity. This is especially true for databases, where there is a close dependency among infrastructure, performance, and reliability.

Likewise, when it comes to open source databases such as Redis, not all cloud managed Database-as-a-Service (DBaaS) offerings are the same. Pay close attention to the features supported by each service, performance and availability promises, and how up to date the platform is. Then consider whether you will have to re-platform in the future, and ask, "Is the platform built for where the puck is headed?" That is, is it suited for cloud-native globally distributed applications, and the requirements that come along with it.



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Many paths to the cloud

How to move to the cloud

There are a couple paths for moving your applications and databases to the cloud. The choice depends on whether your organization is simply moving a workload unchanged to the cloud, or whether it wants to use the transition to the cloud as an opportunity to take full advantage of digital transformation. The options are:

- **“Lift and shift,”** where your organization takes an existing application or database and moves it to the cloud unchanged. In this case, the rationale for moving the system to the cloud is to eliminate the need to maintain physical infrastructure and move the budget from CapEx to OpEx. Instead of paying for capacity, the cloud lets your organization pay for resource consumption on a pay-as-a-you-go basis.
- **“Lift and transform,”** where your organization uses the opportunity of cloud adoption to rethink its existing applications or databases, and/or develop new apps that take full advantage of cloud-native architectures.

While there is no single recipe for choosing which strategy is best for your organization, think about it this way:

Choose lift and shift if your organization is moving a stable back-end system, such as a back-office financial transaction or reporting system to the cloud for the purpose of cost reduction and operational simplification.

Choose lift and transform if your organization is seeking to take advantage of new growth opportunities and/or is pursuing a digital transformation strategy.

What type of cloud service to choose?

The cloud provides a wide array of options. At one end of the spectrum sit Infrastructure-as-a-Service (IaaS) offerings, where organizations subscribe to access to cloud compute and storage infrastructure. In this approach, organizations still have the same responsibilities as they would in their own data centers, including selecting, provisioning, and managing infrastructure as well as installing, updating, and patching software.

At the other end of the spectrum are managed cloud services, where the platform provider takes a prescriptive approach to delivering packaged services that reduce or eliminate the need for customers to specify and manage infrastructure and software. Managed database services are often referred to as “Database-as-a-Service (DBaaS).”

Customers are moving to DBaaS in droves because it offers operational simplicity, cost benefits, and increased release velocity. Many of these services take advantage of the latest innovations in cloud-native architectures. For instance, many of them leverage Kubernetes, the open source container orchestration standard that can be used to simplify the automation of how services are deployed, infrastructure is autoscaled, system health is monitored, and security is enforced.



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Choosing an open source DBaaS

Enterprises that are either moving or developing new applications in the cloud are increasingly relying on open source databases for the underlying data platform. This reflects the acceptance of open source in the enterprise, to the point where many organizations are adopting open-source-first strategies for all new applications. It also reflects the maturity and enterprise-readiness of open source databases, which are now able to deliver the scale, reliability, and performance expected of enterprise data platforms. And lastly, it reflects the embrace of the cloud by enterprises.

But just as there are many differences in cloud services, there are also many differences among DBaaS services from different cloud providers offering the same database. For instance, each of the major cloud providers offers their own Redis managed database service, with those versions based on the community edition. As a company graduates from open source Redis to a managed version, leaders should take some key things into account.

When evaluating open source DBaaS services, ask the following questions:

- How current is the platform? Does the DBaaS service always offer the latest production-stable version certified by the open source project?
- How feature-complete is the cloud provider's open source DBaaS service?
- Does it offer the features critical for high availability and reliability?
- What level of performance does the service offer?
- What is the SLA promised by the DBaaS provider?
- What cloud(s) will the DBaaS service run on? Does the DBaaS service offer the customer a choice of cloud platforms?

Where Redis Enterprise Cloud plays

As the company that supports the Redis database, Redis offers its own DBaaS offering, the Redis Enterprise Cloud. Unlike Redis DBaaS services from specific cloud providers, the Redis Enterprise Cloud runs on all of the major public clouds: Amazon Web Services (AWS), Microsoft Azure, and Google Cloud. As such, it allows Redis customers to take advantage of the service in the cloud(s) of their choice. It is also designed to work alongside on-premises deployments, allowing customers to work in hybrid and/or multi-cloud environments.

The Redis Enterprise Cloud also differentiates itself by:

- Supporting the latest production-stable Redis database release.
- SLA promises of four-9s (99.99%) availability, amounting to downtime of only seconds per month.
- Sub-millisecond performance, which is critical for real-time use cases such as credit-card processing, high-frequency trading, and multi-payer online gaming.
- Global, distributed processing through support of Active-Active architecture, allowing a single logical instance to operate across data centers/availability zones and world regions.
- Instant failover in seconds.
- Support of the full Redis Enterprise platform, including Redis modules (e.g., RedisSearch, RedisGraph, RedisJSON, and RedisTimeSeries for multi-model support), along with options for tiered memory and Flash storage.



“ Unlike Redis DBaaS services from cloud providers, the Redis Managed Cloud runs on all of the major public clouds and can work alongside on-premises deployments, for hybrid cloud and multi-cloud environments. ”

“ Not all Redis managed DBaaS services are created equal. When evaluating them, look at how current and feature-complete the platform is, what are the promised service levels, and how well does it perform. ”



Takeaways

Enterprises are embracing the cloud because of the operational simplicity, economics, and agility that it promises. There are many paths to the cloud, ranging from lift-and-shift to more transformational lift-and-transform approaches that may be used for reducing the overhead of running existing systems or enabling new opportunities for transformation and expansion of the business. We believe that managed services are the most effective way to realize the promised benefits of cloud deployment.

Open source databases have become popular targets for cloud providers delivering managed DBaaS services. These databases have been proven by the wide support and millions of downloads where they have been stress tested across a variety of environments and enterprise use cases.

Redis has become a popular database for delivering high-performance for use cases requiring real-time responses. Not surprisingly, most major cloud platform providers now offer their own managed Redis services. But not all Redis managed DBaaS services are created equal. When evaluating the alternatives, enterprises should look at how current and feature-complete the platform is, what are the promised service levels, and how well does it perform. As the company whose sole focus is Redis support, Redis differentiates its managed service by supporting the latest production-stable version and providing features such as multi-model and multi-master support that are not included with many rival offerings.

About dbInsight

dbInsight LLC® provides an independent view on the database and analytics technology ecosystem. dbInsight publishes independent research, and from our research, distills insights to help data and analytics technology providers understand their competitive positioning and sharpen their message.

Tony Baer, the founder and principal of dbInsight, is a recognized industry expert on data-driven transformation. Analytica named him as one of its Top 100 influencers lists for **data** and **cloud** in 2019 and 2020. Analytics Insight named him one of the **2019 Top 100 Artificial Intelligence and Big Data Influencers**. His combined expertise in both legacy database technologies and emerging cloud and analytics technologies shapes how technology providers go to market in an industry undergoing significant transformation. His regular ZDnet “Big on Data” posts are read 25,000 – 30,000 times monthly.

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