ObjectRocket
a rackspace company

Everything You Need to Know About Database as a Service (DBaaS)

What's Inside

Is Your Company Ready for DBaaS?

DBaaS promises a more cost-effective and efficient method of delivering, deploying, and maintaining applications and services. Many organizations are starting to move application workloads to DBaaS to save time, money, and frustration for everyone — even DBAs.

Read on to find out if your company is ready for DBaaS

Getting Started with DBaaS

Many companies that are just starting out must decide which functions they want to keep in-house and which would make more sense to outsource. This is particularly true of tech-based companies, which often have layers of technologies that must work together to enable the companies' core offerings. Making decisions about what to outsource can be difficult. Whether you're hiring your own crew or paying another company to get the job done, the costs can add up.

For example, databases power many, many popular applications, but the makers of those applications don't necessarily have (or want) a full database team of their own on their payroll. It may not be economical for a company to search out, recruit, train, and equip database experts when they really want to be focusing their efforts on developing new products and features for their core offerings. When it comes to databases in particular, things can get pretty messy pretty quickly if they're not managed properly.

Is outsourcing database management the right choice for your company? **Let's take a closer look at a growing trend called DBaaS, or Database as a Service, to help you decide.**

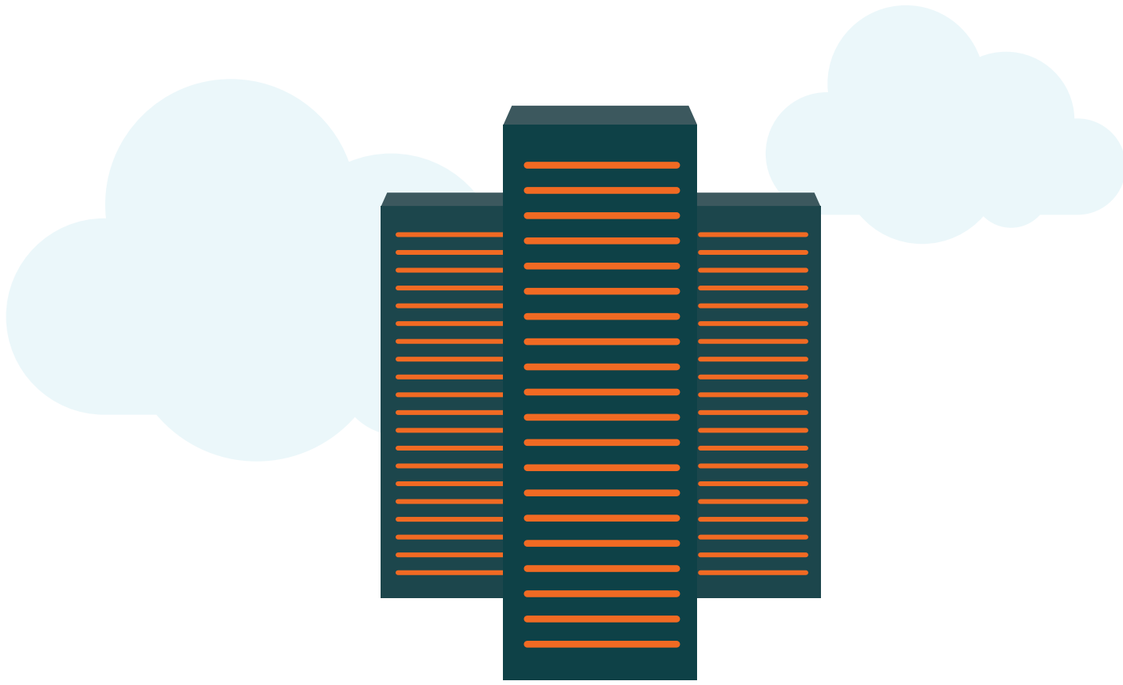
What is DBaaS?

Database administration is rapidly moving toward DBaaS, a cloud-based service model that gives entities access to databases without having to buy, set up, and maintain physical hardware and dedicated DBA staff. By automating and speeding up tasks ranging from analysis of big data to provisioning and scaling, DBaaS takes a lot of work off the shoulders of developers and IT departments. DBaaS delivers database functionality on the same scale as on-prem while providing businesses of all sizes with a database solution that is simple to use.

What's Causing the DBaaS Boom?

The growth of big data, increasing availability and capabilities of cloud computing, and decreasing cloud costs are key factors causing the DBaaS boom. Add in the explosive growth of open source applications, and now we're talking blast off.

Open source software and infrastructure-hosted management in the public cloud are fueling the take-off of data and the subsequent need for data management. More and more DBaaS companies are stepping into this space, competing to comprehensively manage open source database solutions. And as DBaaS solutions take over, RightScale's 2017 Report on Cloud Computing Trends notes decreasing growth of the private cloud in which enterprises do their own database management. Database knowledge source, DZone, notes that worldwide public cloud spending was $67 billion in 2015 and estimates it will reach $162 billion in 2020, indicating continued acceleration along these lines.



Four Signs that Your Company is Ready for DBaaS

Are you trying to manage your databases in addition to generating the content that goes into them and developing new technologies and features at the same time? Although there is something to be said for hands-on management, running databases in production can be complex and challenging, and it can start robbing your business of time, focus, and money before you know it. Knowing when to outsource is key — especially when you have a small team and a limited budget.

Read on for four signs that DBaaS is right for your business.

1 You're spending a lot of time managing your database(s) instead of focusing on your core business.

Your job is to collect and generate data to make better customer experiences, not to optimize database clusters. Choosing a DBaaS can open up more of your time to focus on your customers' wants and needs.

2 You want to save money.

DBaaS is generally less expensive than other options.One primary reason is that it's generally less expensive than other options. It will only become more so as more businesses flock to fully managed databases. NoSQL is specifically designed to require less maintenance. Data is distributed more evenly, and repairs are conducted automatically.

ObjectRocket offers easy, fast, fully managed databases including MongoDB, Redis, and Elasticsearch. We offer speed, scalability, safety, and security backed 24x7x365 by engineers and DBAs.

3 You suddenly have needs beyond your capabilities.

Your marketing campaign finally hit and your database is growing faster than you can organize it. NoSQL scales elastically (placing your data on many connected nodes for better performance), keeping your company from producing the service hiccups that may kill your newfound momentum. This concept is especially important to consider if you are moving from a hardware environment. As more companies move into the cloud, scaling through hardware will only become more esoteric and expensive.

4 You're experiencing quite a bit of downtime.

NoSQL is known for its uptime. Through its highly elastic document databases and Key Value stores, NoSQL databases enjoy much more relaxed data models than the competition. You can store many disparate types of database elements using NoSQL, a structure that will definitely reduce your downtime. The masterless architecture of NoSQL also ensures that, even if one node goes completely down, another will have the information necessary to keep the data stream moving at top speed.

The Benefits of Database as a Service

As the database takes a more central role within every company, DBaaS fills a very important need in this space.

Here are some of the many ways Database as a Service could benefit your company.

Save Money

Ask any CTO if they'd like more room in the budget. They will never say "no". DBaaS companies employ experts who know all the ins and outs of maintenance and keep up with the latest trends. What does this mean for you? You'll be spending less money on hiring and training your own IT staff. You'll also spend less money on service fees and you won't be losing as much money on downtime.

Get started today! Pilot the ObjectRocket DBaaS platform free for 30 days.

Save Money with DBaaS

- No need to purchase expensive software and hardware.
- No need to hire additional database experts to monitor, recover, tune, optimize, patch, upgrade, and otherwise maintain your databases.
- No need to hire additional support for on-call database emergencies. You still may need coverage for the application, but not for the database piece.
- You'll free up your very skilled employees. When you use DBaaS, your DBAs and developers will have so much more time to work on your core product. They'll be able to focus on application data and developing cutting edge features. And they'll be so much happier.
- Less downtime means that your company is making more money.

More Advantages of DBaaS

Time to Market

Need a database ready to go right now? Need to have it on a specific cloud halfway around the world? No problem. **DBaaS makes this super fast and super easy.**

Scalability

With DBaaS, it's easy to scale in either direction. Many DBaaS companies have this either automated with a click of a button or via simple Slack channel request to a team dedicated to get this done for you ASAP.

Expertise

It's extremely hard to find the right type of expert DBAs. It's especially hard if your application uses certain types of databases, like Elasticsearch or MongoDB. **Some DBaaS companies include expert advice to your development teams** on how to improve queries, how best to prepare for traffic spikes, and improve performance.

But Wait, There's More...

Reasons for switching from in-house management of databases (physical or in the cloud) to DBaaS:

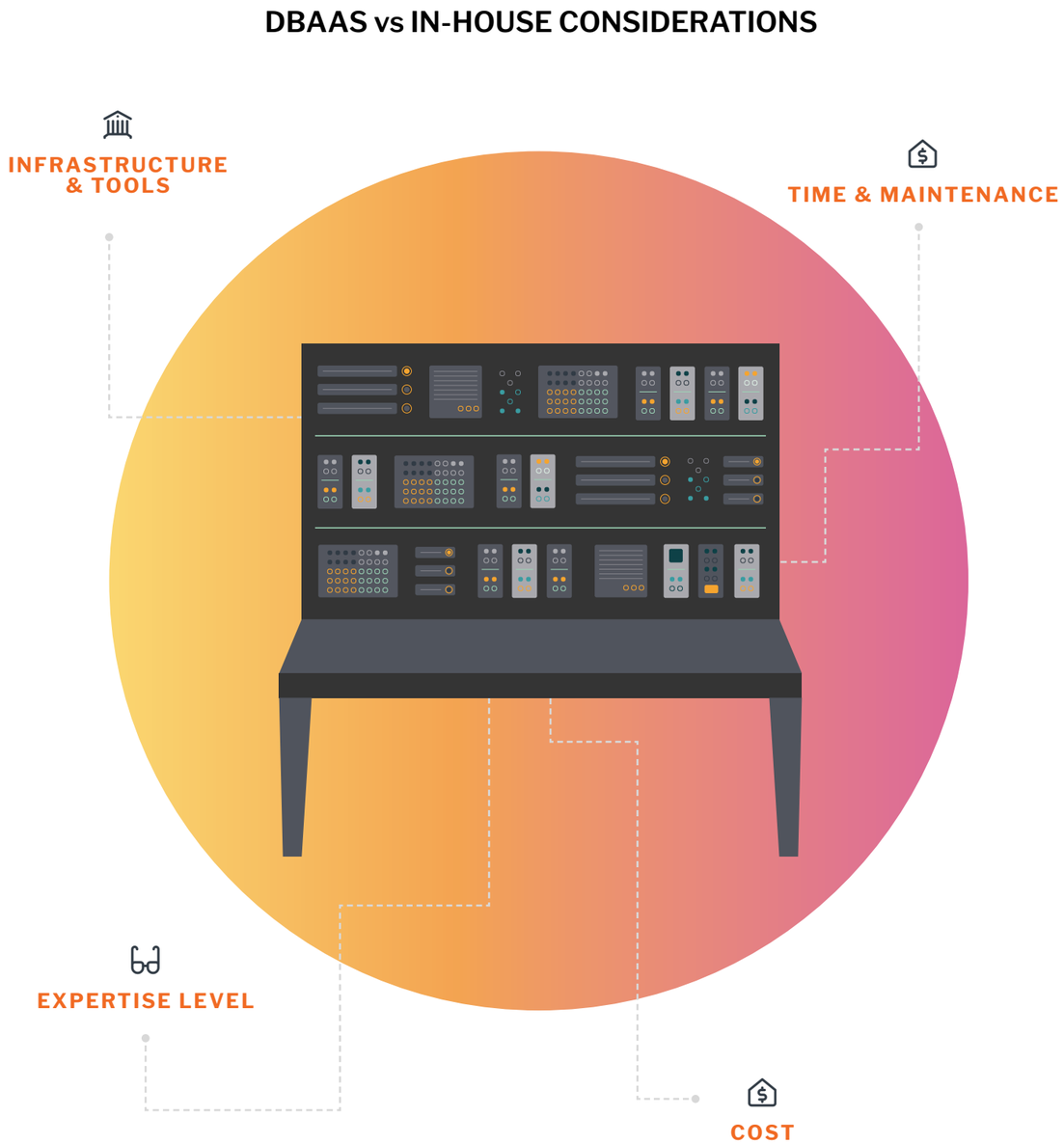
- Avoiding tedious management of multiple databases
- Not finding necessary hardware and software (and going through the approval nightmare)
- Searching for good database administrators for different types of databases
- Struggling with performance and scalability
- Needing affordable security, backups, and maintenance
- Getting the expertise and advice you need in a timely fashion
- You don't have to hire a large IT crew to maintain the system
- You don't pay the power bill for running all the servers
- DBaaS often comes with uptime guarantees
- DBaaS teams are experienced, and know how to handle a variety of bugs and problems
- The database is off site, meaning loss of power or natural disaster at your business doesn't affect it
- The DBaaS can usually devote more resources to their equipment, thus buying better servers and hardware than most small businesses can afford

You can start to see why businesses that can't spare the manpower to run their own database would choose to outsource.

When to Use a DBaaS

When you're making the decision to outsource your database, the main factor you need to consider is this: can the DBaaS do a better job providing database services than you can? If you're a Silicon Valley giant with an army of developers and IT admins, then by all means, build a database unique to your needs and fill a warehouse with servers to run it.

Most of us, though, aren't quite there yet. And even with larger companies that can afford to field their own database team, it's sometimes more cost effective to outsource the labor and maintenance to experts who already have the infrastructure to handle the work. Just like you'd hire a plumber or electrician to help remodel your home, you'll want to trust experts in the field who already possess the proper tools to help your business run at peak efficiency.



What about Cloud Databases?

Cloud databases are becoming more popular and more powerful. Note that the term “cloud database” may mean different things to different people. Some people define “cloud database” as any database running on a cloud service. Others define it as any database that runs outside of their data center infrastructure. In this post, we’re defining cloud database as former and not the latter.

Comparing different database solutions is like comparing apples to oranges. There is so much variation in how companies sell database services today, it’s tough to understand the available options.

The biggest complaint we hear from customers that have used cloud databases and services from service like AWS cloud in the past is that they could never get the help when something went wrong or if they had a question. Any time they ran into a problem, it took days or even weeks to get an answer or receive the support they needed. Cloud database services can be terrific for certain use cases, but proceed with caution unless you have the expertise on-staff.

ObjectRocket

The Impact of Modern DBaaS on DBAs

Database Administrators (DBAs) used to be the masters of their domain. They were the intermediary that stood between the databases necessary to conduct daily business and rest of the company.

Read on to learn more about the changing role of DBAs.

Then database-as-a-service (DBaaS) came along. This service provided an option for companies to outsource their database services, leaving the hardware maintenance, software updating, and employment of database experts to someone else. This simplifies much of the process of handling databases, allowing companies to spend more time, energy, and focus on the applications that drive the growth of their business. Because of this, the DBaaS industry is growing rapidly.

With the database (and its management) moving off-site, some industry experts—including DBAs themselves—have begun to question the relevance, job security, and value of the traditional DBA role.

How does a DBA maintain relevance and job security? How do they justify their value to the company? **The same way evolution has worked for millions of years: adapt to a changing environment.**

The DBAs' Traditional Role

Traditionally, DBAs had a wide range of responsibilities. Many of them were time-consuming and tedious. Here's a brief list of the things they might have done in a given day:

- Software management—including the installation, configuration, upgrading, patching, and/or migrating of software to any number of servers
- Backup and recovery of database information
- Maintaining database security, both physically and digitally, by restricting access and limiting permissions
- Planning and preparing for storage and capacity issues
- Maintaining, improving, and monitoring server and database performance
- And of course, troubleshooting issues to ensure optimum uptime and access

These activities were the primary focus and made up the majority of work hours for a DBA. Any problems with (or even associated with) the database were their responsibility. The shift towards DBaaS has changed much of that, causing a non-trivial number of DBAs concern that there won't be any work left for them once their company chooses to use managed database services.

How DBaaS Disrupts the Status Quo

The goal of any solid DBaaS is to take normal database management functions off the shoulders of the client company. The best database management companies take care of the infrastructure, set up the cloud servers, and allocate the necessary hardware for the data. They can also respond to sudden growth in storage and processing needs faster than traditional hardware setups, adding resources as needed to maintain uptime and improve performance.

Managed DBaaS offerings also implement and run the software that makes accessing and manipulating the data possible. They handle installations, updates, configurations, backups, recovery, and troubleshooting.

You may be noticing a pattern; the responsibilities that DBAs normally handle are precisely the ones that DBaaS wants to streamline and simplify for their clients. But if they're running all those tasks, where does that leave DBAs?

Adapting to Their New Environment

Here's where we offer some good news. What DBaaS companies do is remove the need for DBAs to be "hands-on" in the maintenance of the database servers. This is similar to what happens when subcontractors remove the need for a general contractor to plumb the house and run the wires by himself/herself. What that means is it frees the general contractor up to tackle higher-level problems.

The same scenario applies to DBAs. The best DBAs prefer to tackle the challenging and often sticky problems, like performance issues. This means that some DBAs would be required to pick up some new skills and knowledge sets. Also, the overall role of the DBA might require some rebranding to reflect the increased complexity of the problems that they would now be freed up to face.

But many of database administrators would prefer to no longer be just the database software patchers, only keeping up with the infinite cycle of patching and upgrading to address bug fixes and added features. The freedom to address real problems, and become a true value-add for the business is often exactly what DBAs want.

The New Roles of the DBA

Performance Optimizer

Companies have always wanted things to be better, faster, and more efficient—especially in technology. With DBaaS, your DBAs won't be spending all their time updating servers and troubleshooting PEBCAK errors. They can give more focus to optimizing how the database runs. Activities like query performance tuning, data modeling, and improving indexing strategy can dramatically improve the efficiency and performance of the database and the applications that run on it. Meanwhile, they can hand off the implementation of modifications to someone else.

If you can get the database to do more, faster, with fewer resources, you can reduce the cost to your company to use the service. That way, you can spend more time thinking about ways to reduce resource consumption and streamlining your database.

Risk Management

Even the most carefully structured system with the most robust redundancies is capable of failing. Now that the DBA isn't keeping the system running, they can can spend more time focusing on and preparing for potential disasters. It may not even come down to comprehensive downtime of the database servers; sometimes less severe failures can pop up along the data pipeline, creating problems for those who need to access the database.

Becoming familiar with the DBaaS systems and how they interact with internal systems can help prepare internal DBAs to deal with challenges as they come up. This allows the business to continue operating even when there's a problem—whether that's with the data, the database, or the communication from the DBaaS servers to the clients.

Cybersecurity

Security is a hot topic for any database. The managed service will have its own physical and digital security protecting the database from incursion directly. However, that's not the only avenue of access. If your business and the managed service has access to the database, both are vulnerable if the client's security isn't sealed up tight.

This is a chance for the DBA to flex his or her security biceps and make sure that threats to the data (both internal and external to the company) are denied access. Limiting permissions as much as possible is step one. Making sure that everyone follows good password practices and habits is step two. Beyond that, a lot of it is closing software vulnerabilities and teaching anti-malware and anti-phishing tactics to the organization.

Architecture Planning and Budget Management

Along with optimizing performance, a DBA who's working with a DBaaS or managed service has the opportunity to plan how much architecture is hosted in-house, and how much is outsourced. A DBA can add a lot of value by helping determine which functions are still better handled by the in-house teams and which features it makes sense to hand off to external vendors.

Why should a DBA care about this? Because most DBaaS companies follow a tiered price structure according to which features you want. A savvy DBA can save their company a pretty penny by determining that features X, Y, and Z can be handled by the in-house IT team, thus lowering the tier the company needs to pay for.

The more refined and organized the physical and digital architecture is, the more you can save. So fine-tuning the system should be an ongoing process.

Data Guru

With a DBAs focus off the system, they can put more of their focus on the data and the applications that use it. Getting familiar with all the data sources, their value to the organization, life cycle, etc., can better prepare a DBA to manage the database and keep it in the best shape performance-wise. Additionally, this frees up time for DBAs to pursue additional database technologies or focus on other areas such as retention, reporting, BI, analytics, and even newer data science and machine learning areas.

Analytics is an especially valuable knowledge set, considering how many companies are offering BI solutions to help them make sense of all the data in their databases. By focusing on the data itself, DBAs can capitalize on the knowledge gap between those who use the data and those who understand how it's collected and organized. Doing a little digging into machine learning and data mining wouldn't hurt either.

DBA Job Security

For the motivated and dedicated among DBAs, there's no risk to job security at all. DBaaS actually opens up more opportunities; it just takes a little effort on the DBA's part to evolve along with the changes, and keep their positions (and their skill sets) up-to-date and relevant.

Questions to Ask When Evaluating DBaaS

There are so many different types of managed database providers out there. Some charge for certain services, some force you to share hardware, everyone handles support a little differently.

Read on to learn what to ask when you're evaluating and comparing DBaaS providers.

Here's what to ask when you're evaluating and comparing different DBaaS providers to make sure you don't run into any surprises.

Support

- Is support included?
- How do I reach you when I have a question or problem?
- Do you include chat support, like Slack?
- Do you include phone support?
- Which ticketing system do you use?
- Are you available on all communication channels 24x7x365?
- Where are your support teams located?
- How is data migration handled?
- What is your SLA?
- What happens if you don't meet the SLA?
- Can I speak with a current customer?

Maintenance

- How do you handle backups?
- How are upgrades handled?
- Do you supply regular database health checks?
- Do you regularly review architecture to help us improve our application and make suggestions as new technology is available? Does that cost extra?
- How is scaling handled?
- What happens if I run out of space?

Functionality

- Do you support multiple types of databases? Which ones?
- Are your services available on multiple clouds? Which ones?
- Do you offer open source options for add-ons and plugins?
- Are DBA services included? Which ones?
- What happens if I want to move my data to another service?
- What are my billing options?
- Do you help with query optimization? Is it included or is it an extra cost?
- Do you offer custom hardware options?
- Do you offer different cloud hosting options?
- What integrations do you offer?
- What types of security compliance do you offer?

Why Choose ObjectRocket?

So, you want to get your payload of data into orbit without crashing your ROI?
Here are some of the top reasons why we think you should meet us on the ObjectRocket launchpad.

Open Source Innovators

We're a leader in open source database management and are well known for our deep knowledge of NoSQL databases (especially MongoDB, Elasticsearch, and Redis).

Polyglot Persistence

Using aDBaaS that offers multiple types of databases is critical.
That way, youcan use the right database for your use case, saving time and money.ObjectRocket manages several types of open source databases so thatyou can use one vendor for all your needs.

Fast and Secure

We know how to get the most out of host machines to power demanding workloads. Our platform provides high security while performing millions of operations per second.

We Grow With You

ObjectRocket was built on the core premise of enabling simple and reliable scalability for all of our databases. RocketScale™ is an ObjectRocket technology that automatically adds data nodes as you need them.

Cost Conscious

In June 2017, Crimson Consulting Group released an analysis showing that contracting with a fully managed DBaaS is a much better value than managing databases in-house. Crimson noted that ObjectRocket lowers data management costs by "orders of magnitude." That's the kind of language scientists use to describe the distance between stars.

Contact us today so we can help you travel light years ahead of your competition.

SCHEDULE A CONSULTATION

About ObjectRocket

ObjectRocket's technology and expertise helps businesses build better apps, faster so developers can concentrate on creating applications and features without having to worry about managing databases. We'll migrate your data at no cost and with little-to-no downtime. Our DBAs do all the heavy lifting for you so you can focus on your builds. We provide 24x7x365 expert support and architecture services for MongoDB, Elasticsearch, Redis, and Hadoop instances in data centers across the globe.