PERCONA

2019

Open Source Data Management Software Survey

> "Open Source is dominating the software industry.
> It's got a bright future. It offers more options for customers
> and developers. It's a win-win situation."

The database landscape has evolved rapidly over the past few years, and open source database software and the open source community continue to innovate to meet user and enterprise needs. Percona conducted a survey of open source database users to find out more about how they deploy open source software (OSS) databases.

There is no "one size fits all" database needs. Though software vendors have worked hard to add features, users gravitate towards the best database (and best tool) for the job, using the right database for the right application in database environments that can exist either on-premises, in the cloud, or a hybrid of the two.

The current market landscape includes:

- **Multi-database usage**
- **Hybrid public-private cloud deployments**
- **Multi-cloud deployments**
- **Security and compliance adherence**
- **Fast and scalable systems**
- **Portability assurance**
- **Vendor lock-in resistance**

Most companies now run more than one database, often on more than one platform. Another development is the rise of micro-services and containerization, along with the growing popularity and awareness of Kubernetes.

Determining what database software is right for your application, customer experience, and enterprise goals has become a very complicated process.

Non-Simple: Database Deployment Is a Complex Series of Options

Percona's open source database survey found interesting and informative results about the state and direction of enterprise database choices and deployments:

62% of respondents use open source software to avoid vendor lock-in.

Our survey revealed that users are **eight** times more likely to adopt an open license than the alternative.

Security and compliance concerns, along with data breaches, were flagged as key concerns in the survey results (more than half at **53%**).

Over **90%** of survey respondents have more than one database technology in their work environment, and **85%** of respondents use more than one open source database technology.

The survey also shows the growing adoption of multi-cloud strategies and hybrid environments.

More than **38%** of respondents say that they are using more than one cloud deployments, either with single or multiple providers.

There is a move toward more heterogeneous environments as database and cloud vendors make their databases more accessible and easier to use.

Over **50%** of survey respondents already run some of their workload in the public cloud.

As a market-leader delivering unbiased, open source database expertise, Percona will continue to promote and support well-designed database deployments, database optimization, free software, and open source solutions that enable users to grow in a secure and scalable way.

Percona thanks everyone who participated in our survey. We look forward to hearing your thoughts on these results.

About This Report

## Who Responded to the Survey?

The US represented the biggest base of respondents with **26%**. However, the remaining **74%** are spread widely across the globe, giving us a broad mix of global replies. This demonstrates the diversity and reach of the open source community. It is also a testament to the power of the data architectures and technologies discussed: technology allows people to remain connected while working anywhere in the world, in any time zone.

836 TOTAL RESPONDENTS FROM 85 COUNTRIES

215 from the United States

161 from European Nations

33 from Latin America
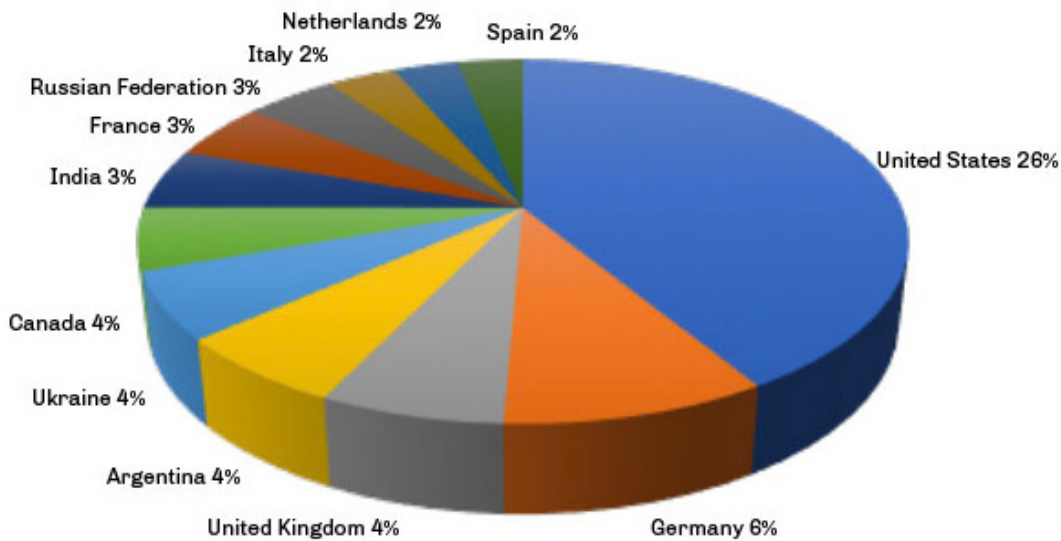
We received feedback from a mix of small, medium, and large companies — showing that open source software is a solution that works no matter what size your business.

COMPANY SIZE

■ 573 Small Company Respondents (1-500)
■ 103 Medium Company Respondents (500-5,000)
■ 81 Large Company Respondents (5,000+)

Many of the respondents, unsurprisingly, were technology-focused companies. Many offer cloud and SaaS solutions to startups, growing businesses, and established enterprises.

INDUSTRY

131 were Information Technology companies

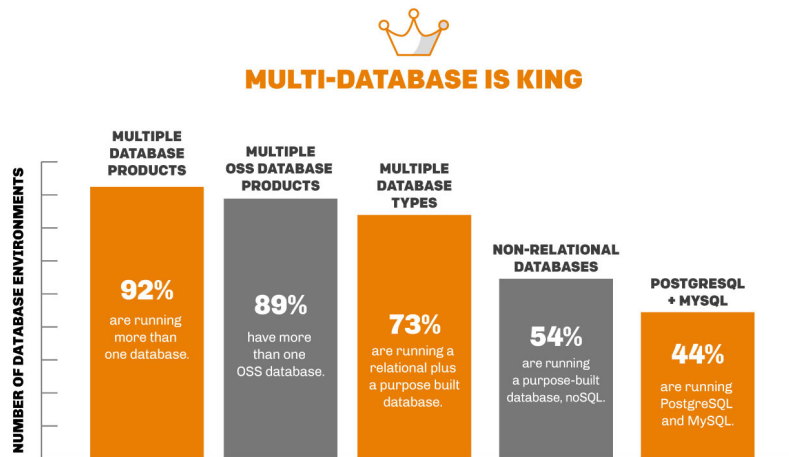89 identify as Software as a Service (SaaS) Development

84 are Cloud-based Solutions or Services companies

Cloud-based solutions or services	84	Retail or e Commerce	67
Consulting	49	Software as a Service (SaaS) development	89
Data and analytics	51	Web development or design	55
Financial technology or services	50	Other software development	63
Healthcare technology or services	27	Prefer not to answer	26
Information technology	131	Other industry (please add in free text box)	103
Media, advertising, publishing, or entertainment	71		

"We are a non-profit, international NGO. We have limited resources for internal projects, and the clients we work with in the third world have virtually no budget to pay for database licenses/ maintenance/support. We go open source whenever possible."

Multiple Databases, Multiple Locations, and Multiple Platforms

It is now the norm to have multiple databases in multiple locations over multiple platforms as companies attempt to adapt to changing business needs. Quickly responding to customer demands and shifting market pressures is a guarantee of maintaining market leadership.

MULTI-DATABASE IS KING

NUMBER OF DATABASE ENVIRONMENTS

MULTIPLE DATABASE PRODUCTS
92% are running more than one database.

MULTIPLE OSS DATABASE PRODUCTS
89% have more than one OSS database.

MULTIPLE DATABASE TYPES
73% are running a relational plus a purpose built database.

NON-RELATIONAL DATABASES
54% are running a purpose-built database, noSQL.

POSTGRESQL + MYSQL
44% are running PostgreSQL and MySQL.

Number of Database Instances In Production

Using multiple databases, in multiple locations, across multiple platforms is now a standard. As companies attempt to streamline and increase efficiency, it is essential that they retain experts to give a close and proactive overview of all database operations.

	up to 25	26-100	101-1000	1001-5000	5001-10000	10000+
	57%	22%	13%	4%	1%	2%
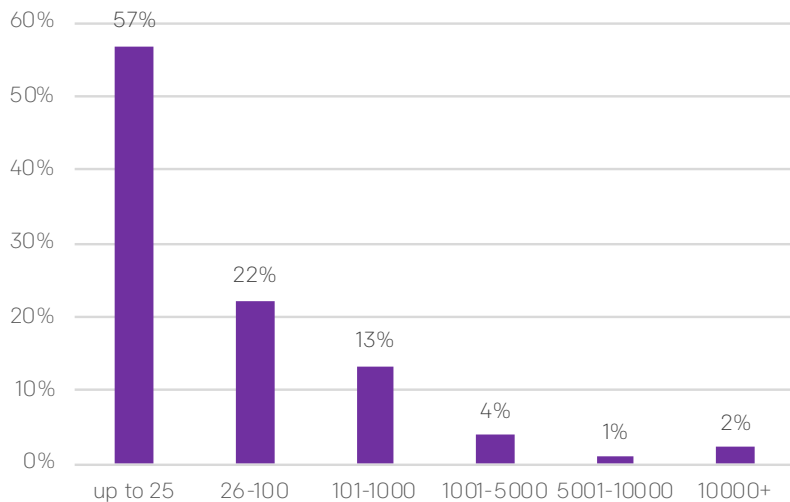
While the majority of businesses use 25 instances or less, the larger the enterprise the more often responders use up 10000 instances (or more). As businesses grow, they need exponentially more instances to hold their data.

- Over **92%** of respondents say they use more than one database.

- **82%** of respondents have more than one OSS database

- **43%** are running both PostgreSQL and some variant of MySQL

- **54%** are running some purpose-built NoSQL database (Document, key-value, big data, etc.)

- **73%** are running both a relational database as well as a NoSQL purpose-built database

PERCENTAGE OF SMALL TO LARGE COMPANIES USING MORE THAN ONE DATABASE INSTANCE
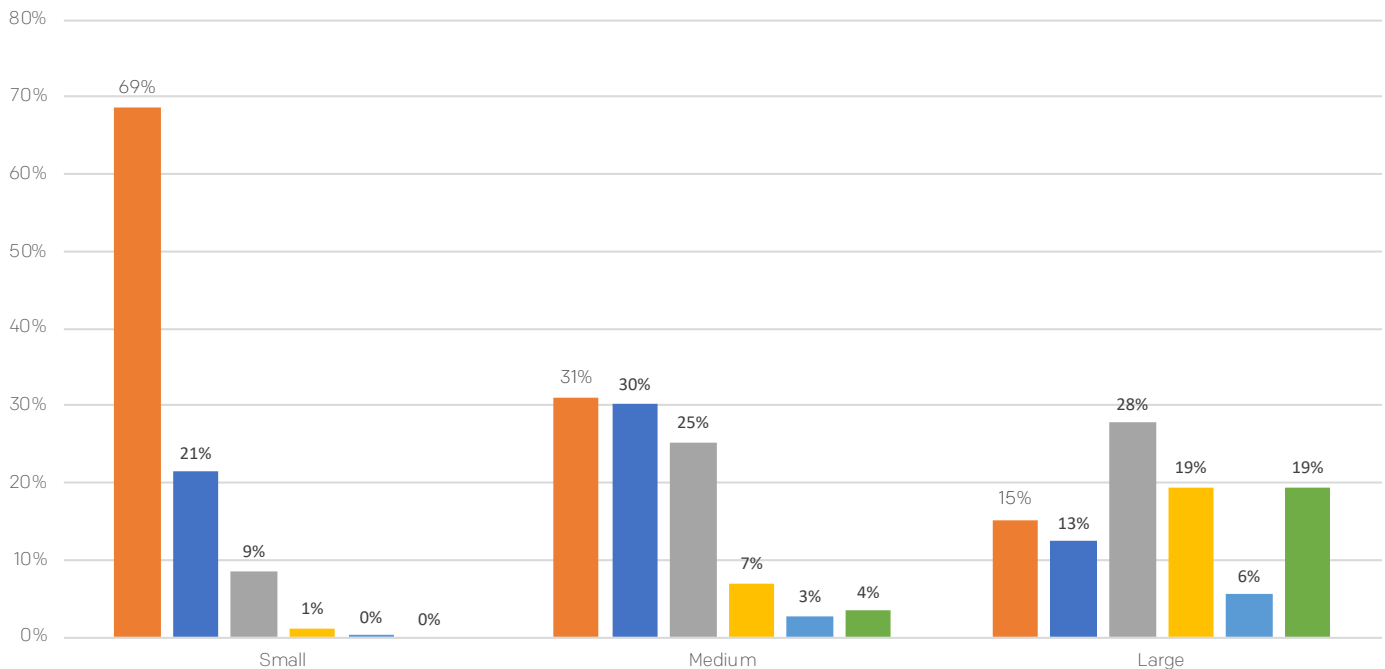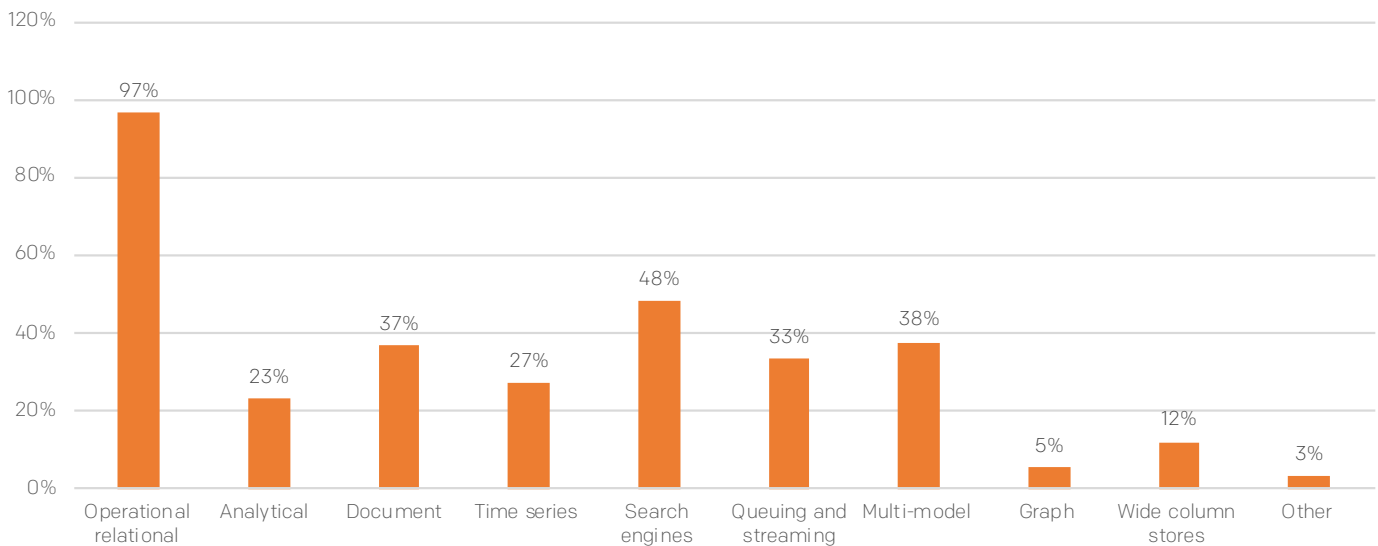
Types of Open Source Database Technologies In Use

As companies scale up operations, they require databases to interact with more and varied application types. For example, a NoSQL database like MongoDB used for displaying images on a web page probably isn't the best database choice for a shopping cart application.

This has led to database specialization. The variety of database options is leading more companies to pick open source database technology based on the application use case.

Despite the many alternatives, relational DBMS continue to dominate. **96.7%** of companies responding to this survey use them. There is a significant gap between relational DBMS and multi-model databases, the next closest DBMS on the list, with less than **40%**.

TYPES OF OPEN SOURCE DATABASE TECHNOLOGIES

Operational relational	Analytical	Document	Time series	Search engines	Queuing and streaming	Multi-model	Graph	Wide column stores	Other
97%	23%	37%	27%	48%	33%	38%	5%	12%	3%

Install Demographics

In our survey, the top databases in use were as expected, but with 30 total databases noted, the expanse of systems in use is quite wide.

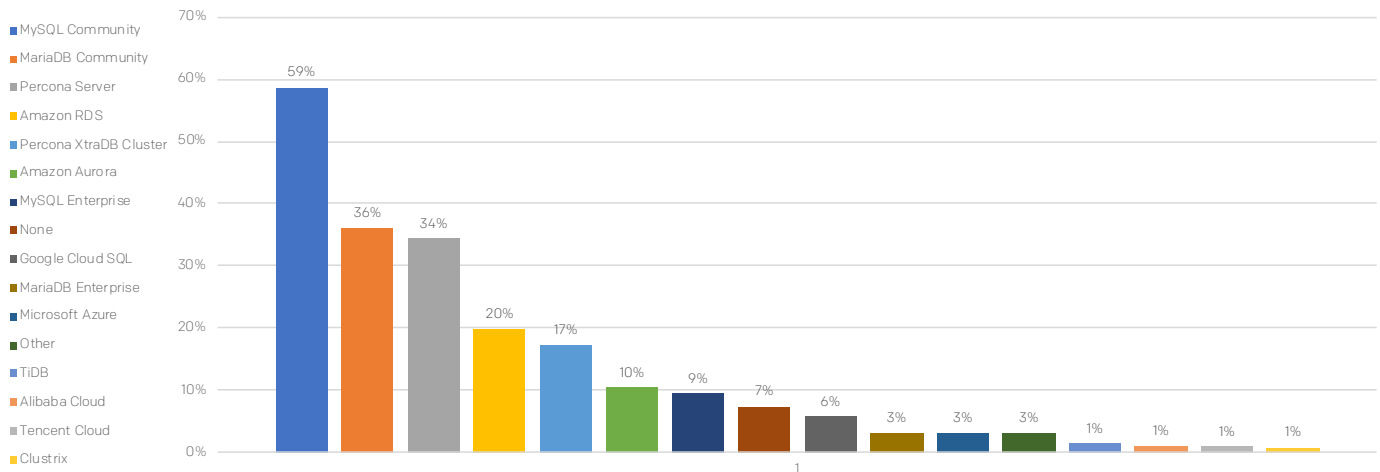|			
MySQL Community Edition	58.7%	Microsoft Azure Database for MySQL	3.1%
PostgreSQL	46.1%	MongoDB Atlas	2.6%
MariaDB Community Edition	36.1%	EDB Postgres Platform	1.9%
Percona Server for MySQL	34.4%	Microsoft Azure Database for PostgreSQL	1.7%
MongoDB Community	34.4%	Amazon DocumentDB	1.4%
Amazon RDS for MySQL	19.8%	TiDB	1.3%
Percona XtraDB Cluster	17.2%	Postgres-BDR	1.3%
Amazon Aurora (MySQL Compatible Edition)	10.4%	Alibaba Cloud: ApsaraDB RDS for MySQL	1.0%
MySQL Enterprise	9.4%	CockroachDB	0.9%
Amazon RDS for PostgreSQL	9.2%	Tencent Cloud: Cloud Database for MySQL	0.9%
Google Cloud SQL for MySQL	5.7%	Postgres-XL	0.8%
Percona Server for MongoDB	4.2%	Clustrix	0.7%
Amazon Aurora (PostgreSQL Compatible Edition)	3.9%	Alibaba Cloud: ApsaraDB RDS for PostgreSQL	0.7%
MongoDB Enterprise	3.6%	FoundationDB Document Layer	0.1%
MariaDB Enterprise	3.1%	Azure Cosmos DB	0.5%

MySQL/MySQL-Compatible Database Use

> "We have been using MySQL for almost 20 years. We like to roll our own without having to deal with vendor nonsense."

MySQL dominates in open source database adoptions. MySQL Community has always been the open source database front-runner (with less than **10%** of companies opting to pay for the MySQL Enterprise edition).
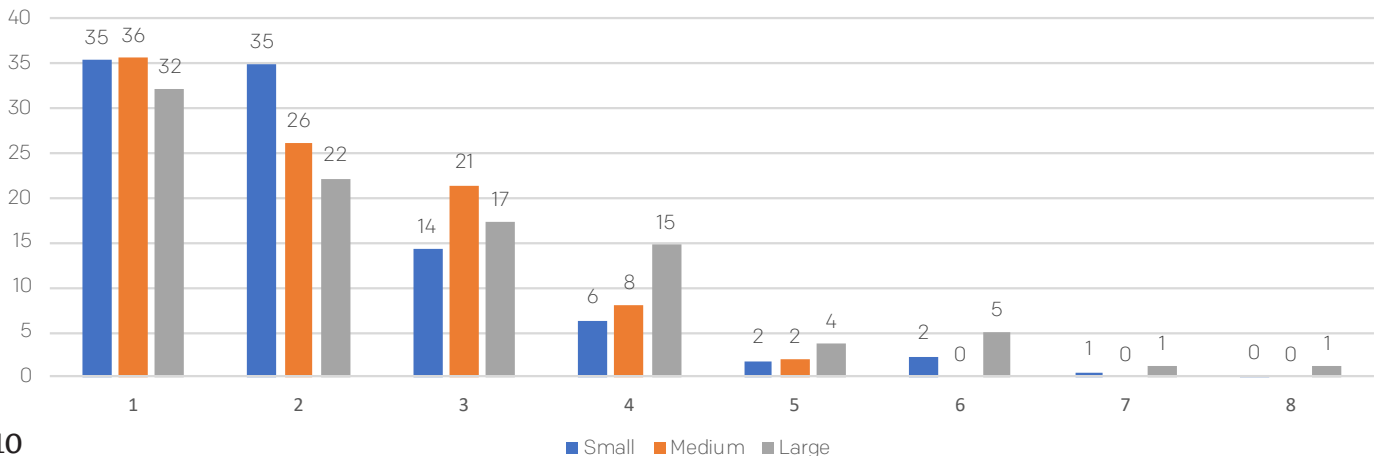
Most people rely on the out-of-the-box MySQL Community installs. The combined installs of Percona Server for MySQL and Percona XtraDB Cluster are in second place. MariaDB is in third. More than half the install base uses more than one provider for MySQL.

As the company size grows, the number of MySQL and MySQL-compatible software and the number of different types at a single company grows.

TYPE OF MYSQL INSTALL

Legend:
- MySQL Community
- MariaDB Community
- Percona Server
- Amazon RDS
- Percona XtraDB Cluster
- Amazon Aurora
- MySQL Enterprise
- None
- Google Cloud SQL
- MariaDB Enterprise
- Microsoft Azure
- Other
- TiDB
- Alibaba Cloud
- Tencent Cloud
- Clustrix

Values: 59%, 36%, 34%, 20%, 17%, 10%, 9%, 7%, 6%, 3%, 3%, 3%, 1%, 1%, 1%, 1%

NUMBER OF INSTANCES

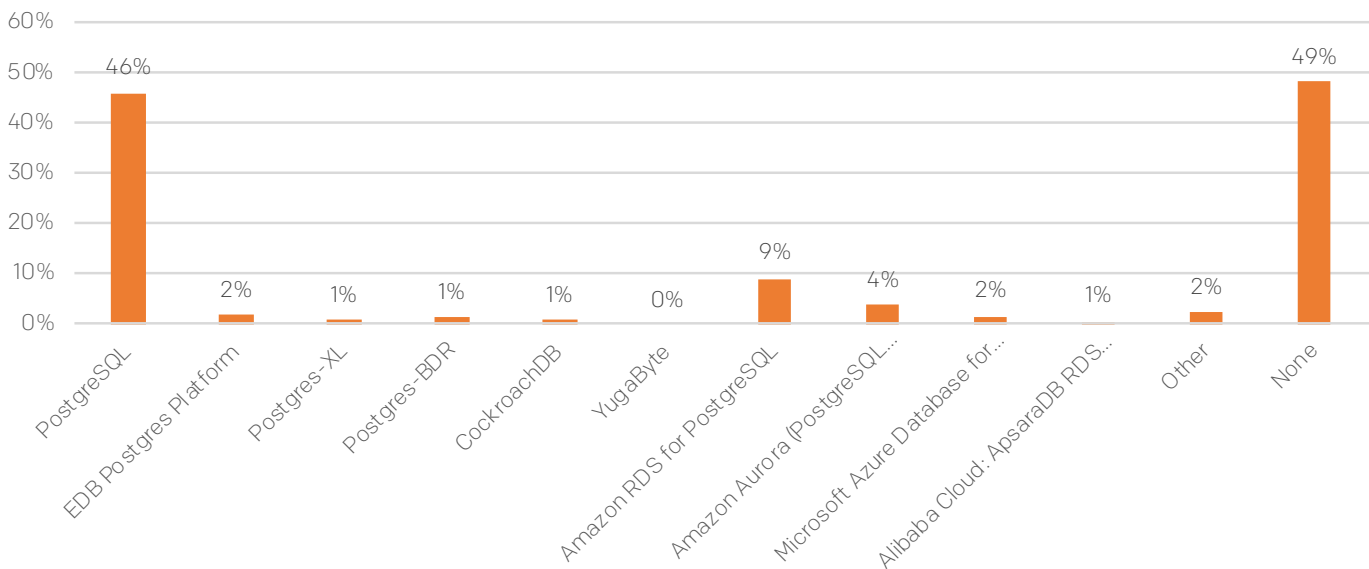|	1	2	3	4	5	6	7	8
Small	35	35	14	6	2	2	1	0
Medium	36	26	21	8	2	0	0	0
Large	32	22	17	15	4	5	1	1

PostgreSQL/PostgreSQL-Compatible Database Use

> "PostgreSQL has the best, most supportive user community
> of any open source software I've ever used — and also better
> than most closed-source."

PostgreSQL and PostgreSQL-compatible databases have shown an increase in adoption in the last few years, with adoption from nearly half of respondents (**46%**) — mostly in small to medium businesses. Standard PostgreSQL, however, is the king of this particular castle, with nearly **70%** of respondents using PostgreSQL as opposed to some other compatible variant.

Expect for PostgreSQL to remain a viable contender in open source databases, and for adoptions to continue to increase.

POSTGRESQL/POSTGRESQL COMPATIBLE VERSIONS

| Category	Percentage
PostgreSQL	46%
EDB Postgres Platform	2%
Postgres-XL	1%
Postgres-BDR	1%
CockroachDB	1%
YugaByte	0%
Amazon RDS for PostgreSQL	9%
Amazon Aurora (PostgreSQL...)	4%
Microsoft Azure Database for...	2%
Alibaba Cloud: ApsaraDB RDS...	1%
Other	2%
None	49%

MongoDB/MongoDB-Compatible Database Use

> "We prefer to use MongoDB everywhere (replacing Oracle and MySQL) as their development, HA, and performance is just awesome"

The dominance of big data, real-time applications, development agility, and the rigidity of relational database models gave rise to the adoption of NoSQL databases. NoSQL databases were built with flexibility and scalability in mind, and follow the Basic Availability, Soft State, and Eventual Consistency (BASE) model.

MongoDB specifically is the most popular NoSQL database. MongoDB Community is the clear winner (much more so than MongoDB Enterprise) in our survey, with **34%** of respondents using it at their companies. It is unusual to have more than one different MongoDB and MongoDB-compatible vendor installs as a single company. Large companies, however, are more likely to use MongoDB Enterprise over MongoDB Community than small or medium companies.
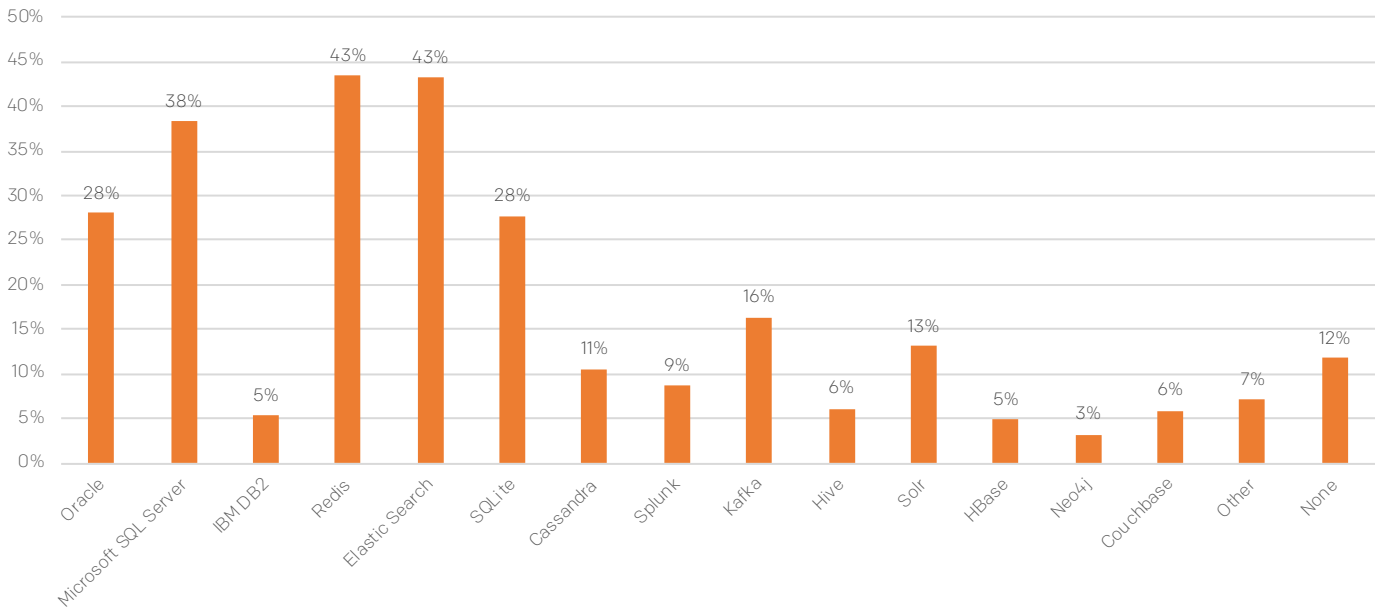
MONGODB COMPATIBLE VERSIONS
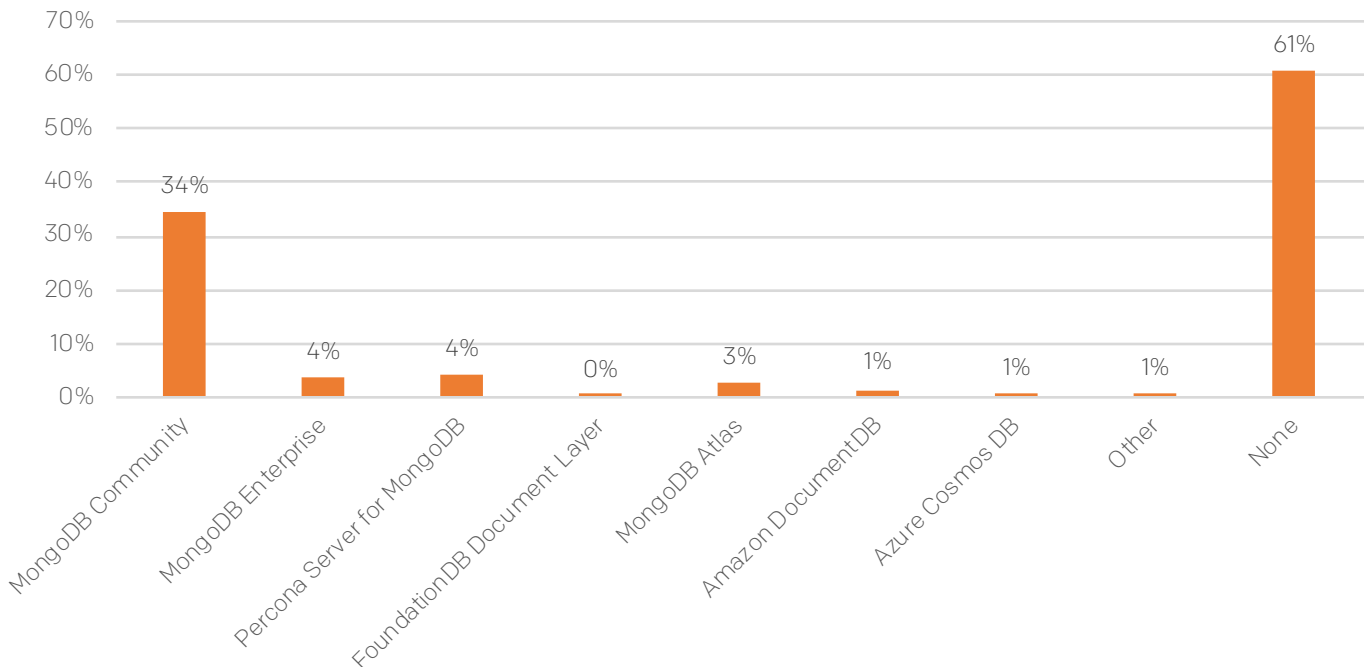
Other Database Technology Use

> "The only risk with open source projects is when the software depends on too small a community."

There are many database options, both open source and commercial. Respondents showed that even with open source as an option, they still use some commercial versions. Redis and ElasticSearch were two that clearly are popular choices, with nearly **50%** of respondents using each of them in some way.

OTHER DATABASE USE

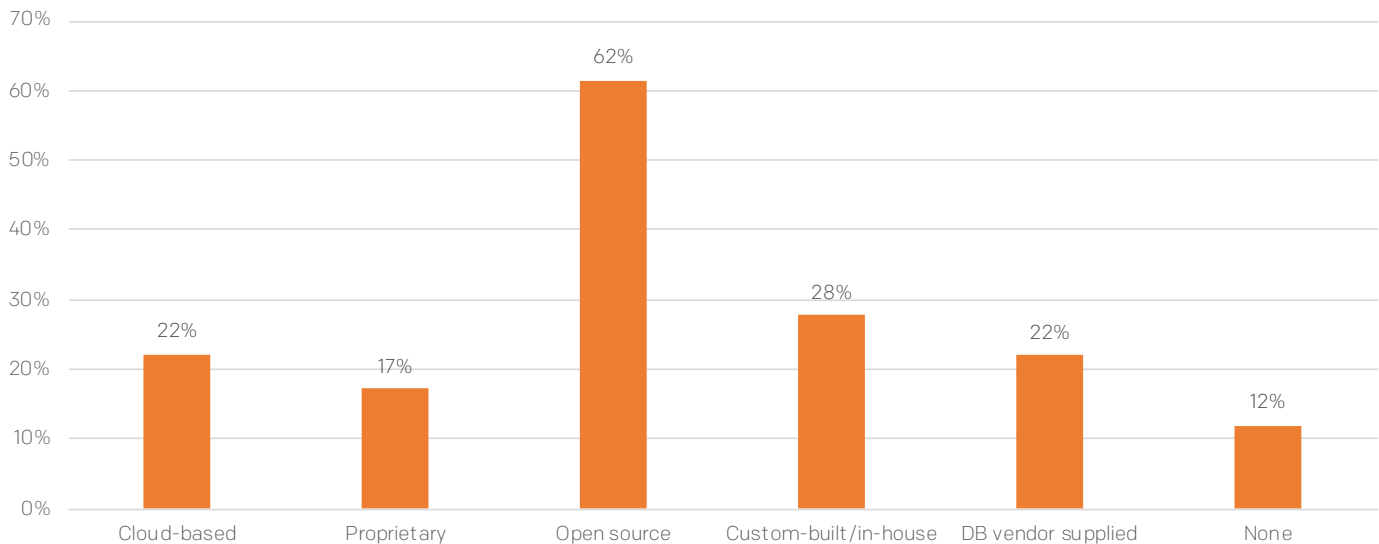| Database	Percentage
Oracle	28%
Microsoft SQL Server	38%
IBM DB2	5%
Redis	43%
Elastic Search	43%
SQLite	28%
Cassandra	11%
Splunk	9%
Kafka	16%
Hive	6%
Solr	13%
HBase	5%
Neo4j	3%
Couchbase	6%
Other	7%
None	12%

Database Observation, Monitoring, and Alerting Tool Use

People who prefer to use open source database options also have a strong preference for open source database observation, monitoring, and alerting tools. Our survey shows that nearly **62%** of respondents use open source database tools. This remains fairly constant across all business sizes.

Nearly one quarter (**22%**) of our survey respondents use cloud-based tool options. This number is likely to grow as the race to host and run databases in cloud-based environments increases.

BUSINESS OPEN SOURCE TOOL USE

Bar chart showing business open source tool use percentages:
- Cloud-based: 22%
- Proprietary: 17%
- Open source: 62%
- Custom-built/in-house: 28%
- DB vendor supplied: 22%
- None: 12%

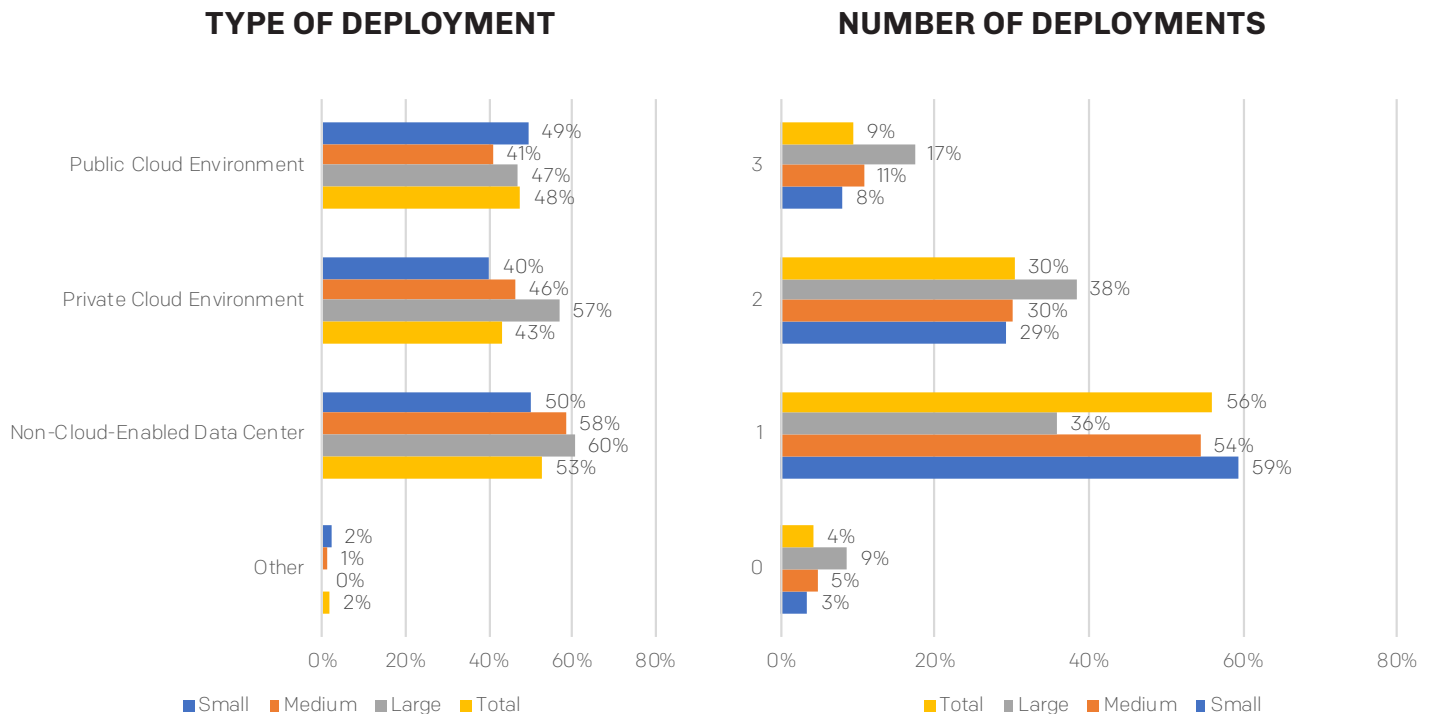# The Dominance of the Cloud and Cloud Vendors

The cloud has hugely impacted all sectors of technology, and transformed the database landscape as well. Vendors actively promote the cloud as the easiest way to deploy, operate, and scale databases. In many cases, there are huge benefits in harnessing the power of the various cloud-based solutions.

Where Companies Run Database Environments

Most survey respondents are well-informed about using open source technology in the cloud (and do so). Interestingly, however, these passionate open source evangelists championing cost-effectiveness, flexibility, and freedom from vendor lock-in can often find themselves tied to cloud vendors with a single solution and large monthly costs with a cloud vendor.

This might explain why over half of our respondents have so far avoided the public cloud, and opted for alternatives that allow for easy deployment and scaling but in a more "hands-on" environment.

As the company size grows, it is much more likely that they are hosting their database infrastructure both on-premises and in the cloud. The larger the organization, the more complex the hosting environment.

TYPE OF DEPLOYMENT

Public Cloud Environment: 49% (Small), 41% (Medium), 47% (Large), 48% (Total)

Private Cloud Environment: 40% (Small), 46% (Medium), 57% (Large), 43% (Total)

Non-Cloud-Enabled Data Center: 50% (Small), 58% (Medium), 60% (Large), 53% (Total)

Other: 2% (Small), 1% (Medium), 0% (Large), 2% (Total)

Legend: Small, Medium, Large, Total

NUMBER OF DEPLOYMENTS

3: 9% (Total), 17% (Large), 11% (Medium), 8% (Small)

2: 30% (Total), 38% (Large), 30% (Medium), 29% (Small)

1: 56% (Total), 36% (Large), 54% (Medium), 59% (Small)

0: 4% (Total), 9% (Large), 5% (Medium), 3% (Small)

Legend: Total, Large, Medium, Small

Cloud Provider Use

Amazon Web Services (AWS) continues to dominate the public cloud provider market, with over **50%** of respondents using its cloud platform. Google Cloud and Microsoft Azure show similar numbers of respondents using their technologies and offer alternatives to companies resistant to using Amazon, or won't use Amazon due to a competitive clash.

The multi-cloud usage for databases is about a third of our respondents, with **41%** of larger companies using multi-cloud deployments (close to **10%** over smaller companies).

Smaller companies are more likely to use Google than Microsoft, but larger companies prefer Microsoft to Google (which could reflect smaller companies' need for cost-effectiveness and agility).

CLOUD PROVIDER IN USE
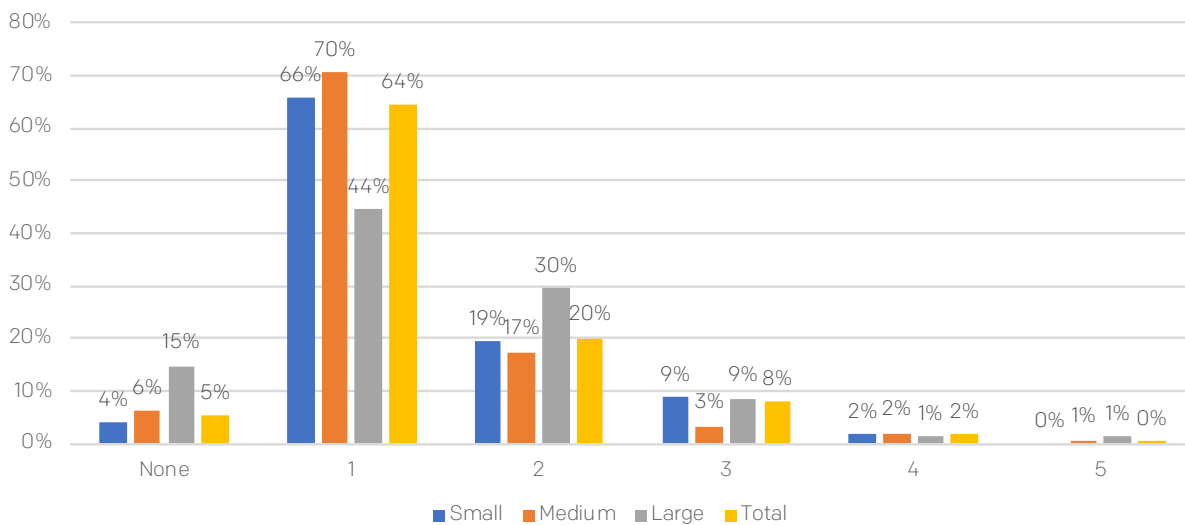

### NUMBER OF CLOUD PROVIDERS IN USE
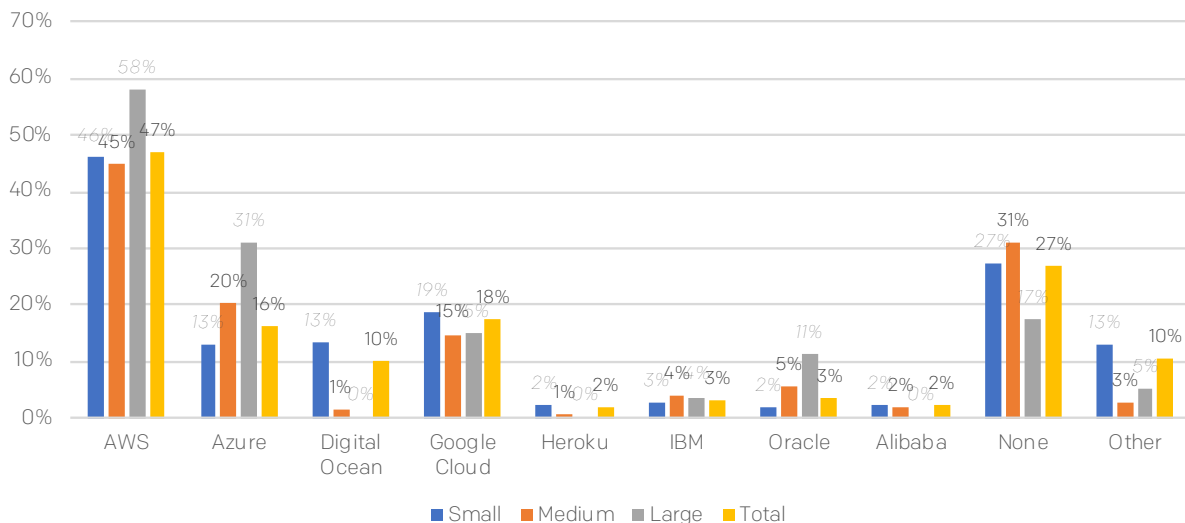
Cloud DBaaS Use

> "I think it's interesting that companies view cloud DBaaS as open source and not as enterprise software. We seem to throw caution to the wind there and look at it as a panacea rather than equivalent to running commercial software."

Although AWS again dominates, Microsoft has continued to build out their DBaaS platform and are catching with AWS on features. It is a surprise that more than **60%** of companies completing the survey do not use DBaaS. As the industry trend for streamlining and commoditizing services continues, the number of companies adopting DBaaS is likely to increase significantly in the coming years.

CLOUD DBAAS IN USE
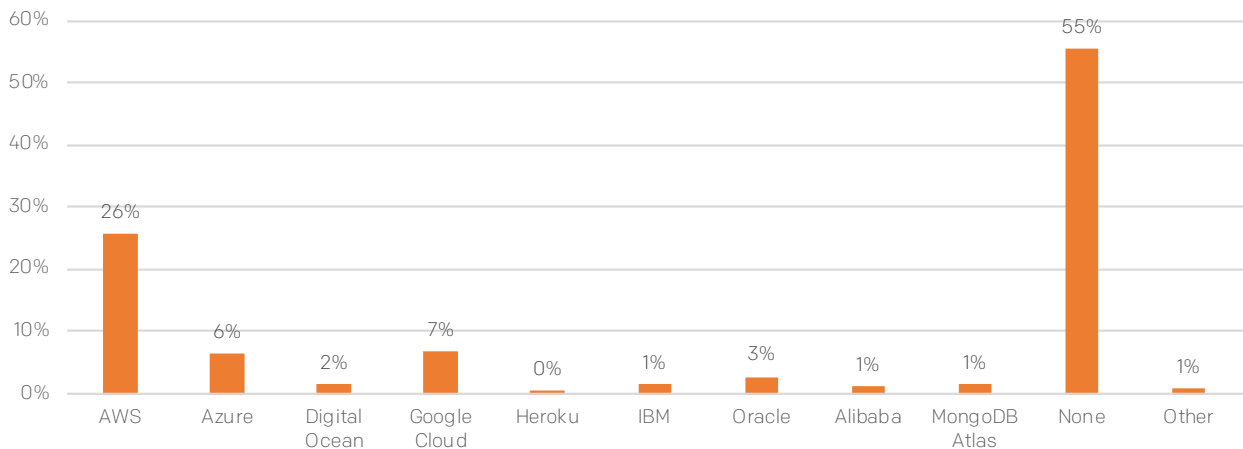
NUMBER OF CLOUD DBAAS IN USE
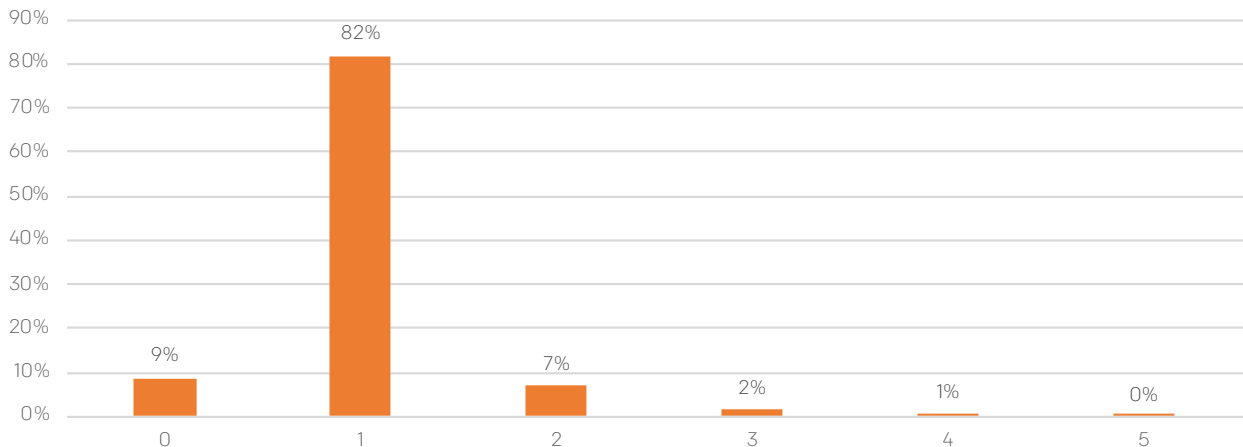
Are Containers the Next Big Thing?

Containers are the next generation of virtual machines. As containers have become more sophisticated, and with the advent of orchestration options like Kubernetes, more companies are looking at using containers to run and manage their database environments.
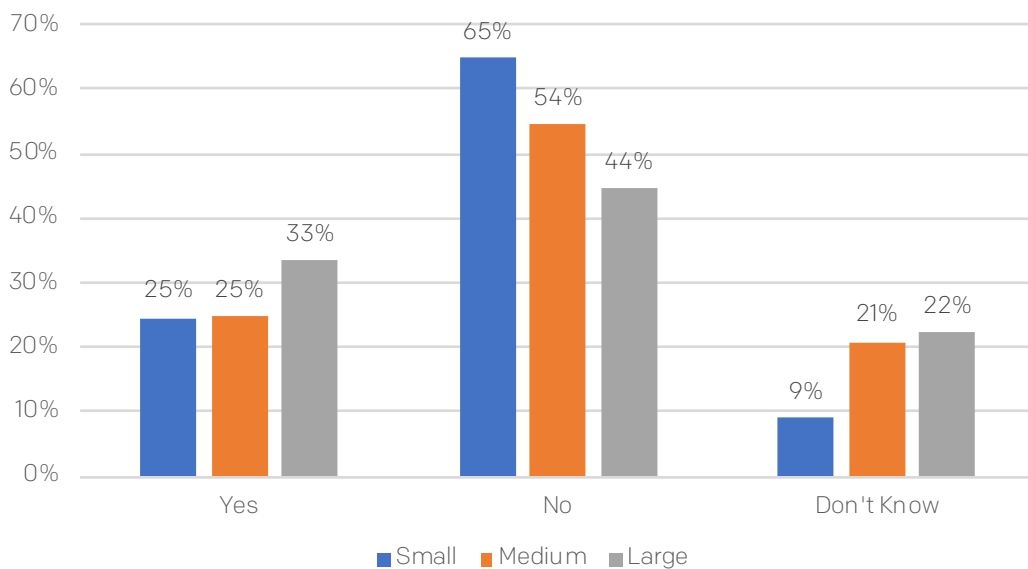
Our survey looked into the current popularity of containers and how this might change in the future.

Containers and Database Use

Over **25%** of respondents are using containers, but not necessarily to run databases. This could be due to some early bias against running databases in containers. Many respondents aren't aware if they use containers for their databases or not.

Our results show that container adoption in production environments increases with the company size.

CONTAINER USE

Chart showing container use by company size (Small, Medium, Large):

- Yes: Small 25%, Medium 25%, Large 33%
- No: Small 65%, Medium 54%, Large 44%
- Don't Know: Small 9%, Medium 21%, Large 22%

Kubernetes Use

> "Kubernetes has made software more fluid. The main issues that we face on my team is that databases are not- it's difficult to migrate data from one cloud provider to another for hundreds of databases."

Our survey specifically asked about companies using Kubernetes. Companies are generally exploring the use of Kubernetes in many different development scenarios (including databases), but are still reluctant to put it into production. Only a third of respondents saying they did. Results from future surveys may show whether companies have moved the needle from testing to production.

KUBERNETES USE
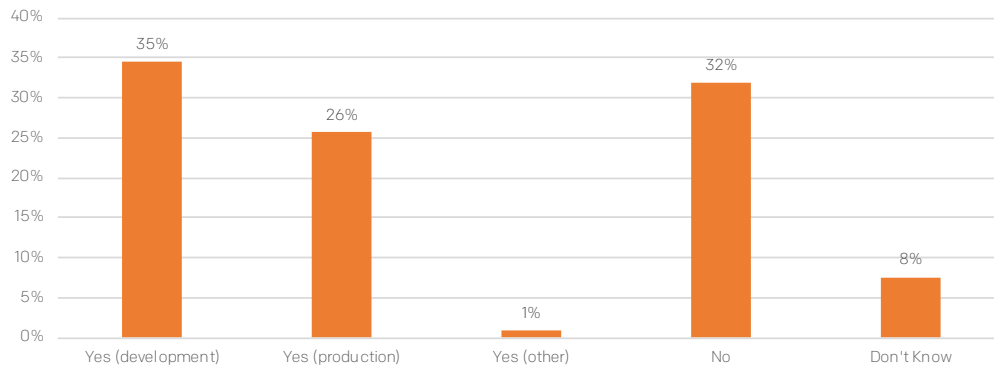
Kubernetes Use for Databases

Companies are testing the use of Kubernetes for their database environments, but again few are actually using it in production. As the work in staging environments demonstrates benefits, this will probably be a key year for the production Kubernetes platforms. We expect to see more in production next year.

KUBERNETES DATABASE USE
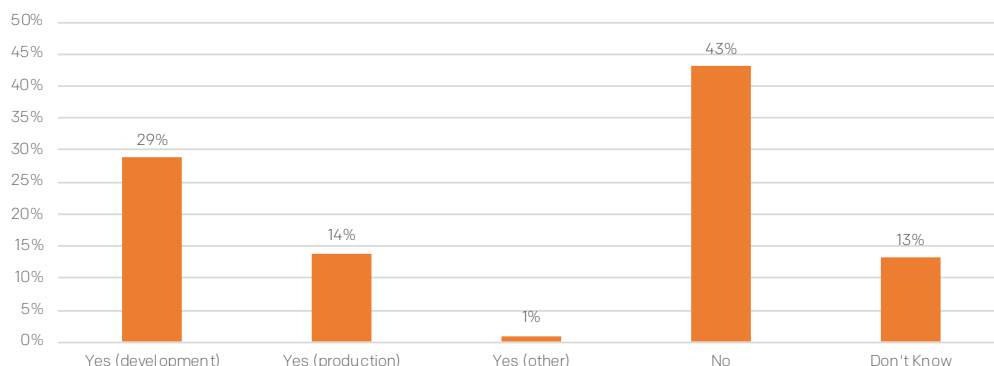
The Continuing Importance of Open Source

Percona was founded on a belief in development transparency, and as a leading provider of unbiased open source database solutions, we have a strong interest in the health of the open source market.

The open source community, which Percona counts itself a part of, has strong feelings about how software is and should be developed. What actually falls under "open source" definition can be somewhat contentious, with many different flavors and opinions on all sides.

Our survey delved into some of the issues around open source development and participation in the open source community.

In some areas, we took a look at the responses between management and non-management to gauge if there were differences, and divided the results accordingly.

Current Trends for Evaluation and Adoption of Open Source Databases

> "My business unit has a strong preference for open source, and we open source some of our own developments to give back to the community."

Companies are increasingly resistant to paying annual licensing fees and being locked-in to software vendors. Adopting open source technology allows them to avoid these pitfalls, and to experiment with different technologies until they find the perfect match for their business. This is evidenced by the **53%** of companies who say they are increasing their adoption of open source databases.

OPEN SOURCE SOFTWARE ADOPTION
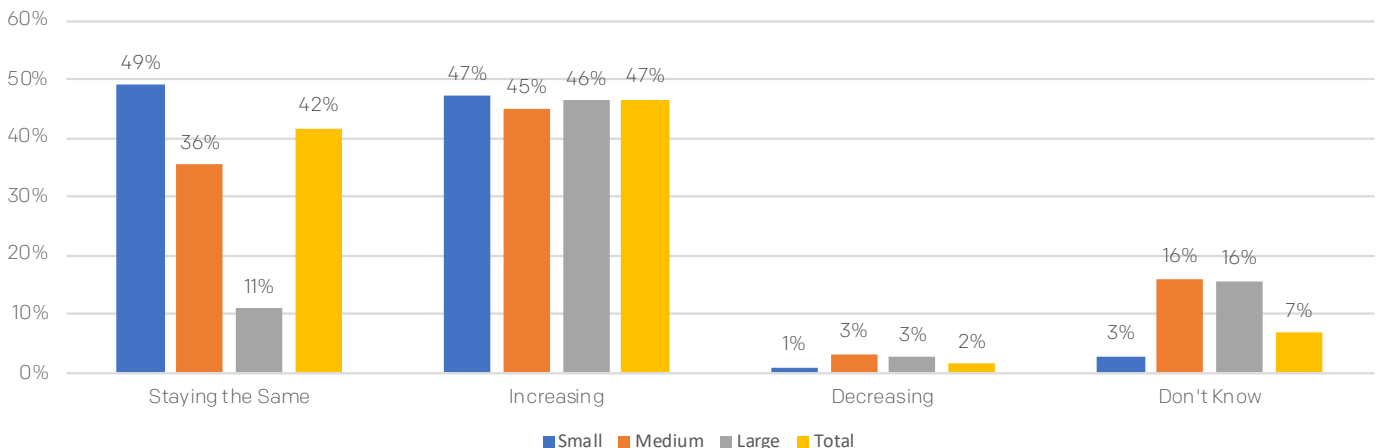
Open Source Database Technology and Tool Contributions

> **"We're so busy, no time to contribute to open source community. Sorry."**

One of the biggest ways to support open source software development is to contribute source code to a project or a community. We asked our survey respondents if they contributed to open source software projects.

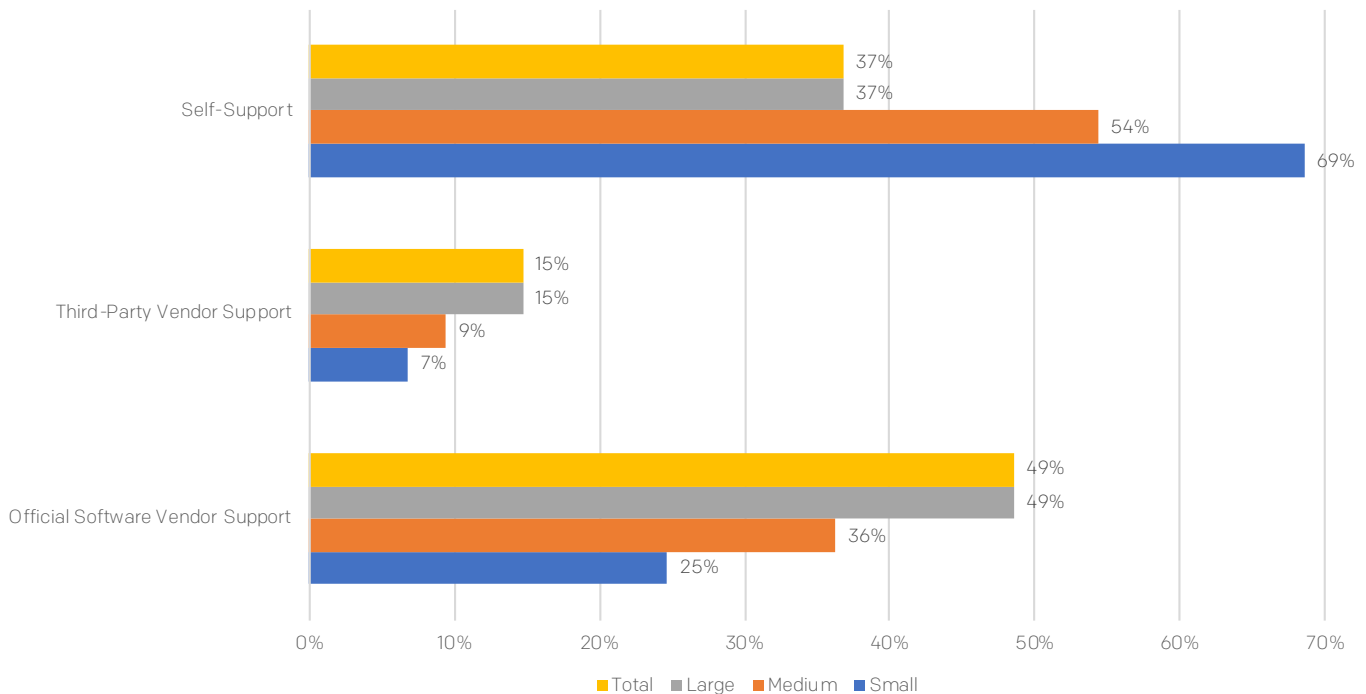**OPEN SOURCE SOFTWARE CODE CONTRIBUTIONS**

Category	Percentage
Yes (Personally)	17%
Yes (Company)	9%
Yes (Both)	11%
No	64%
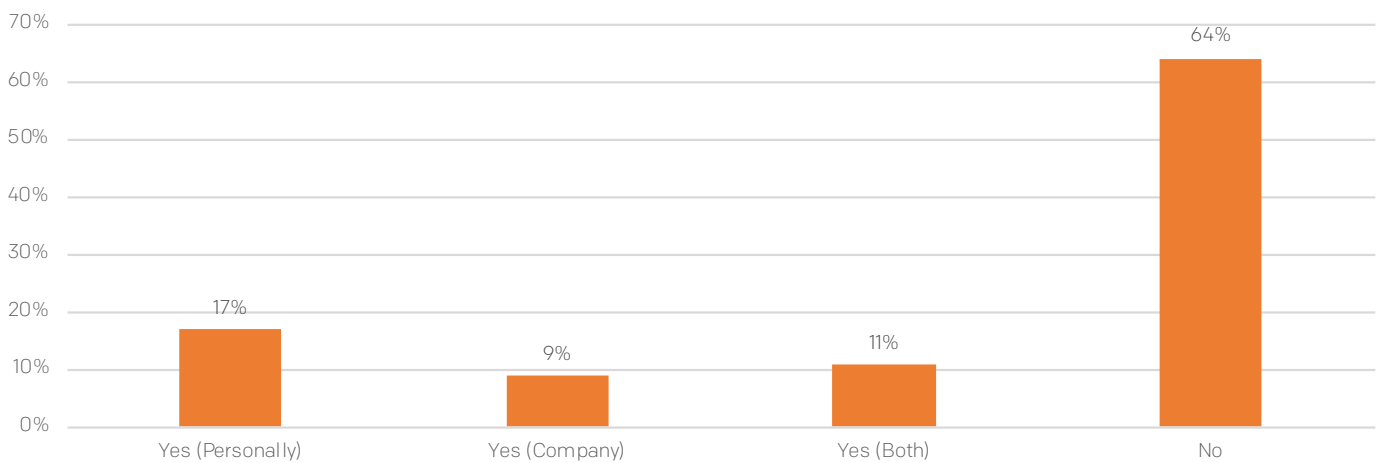
Open Source Database Support Preferences

> "We are more inclined to adopt an open source product that has some sort of support available for purchase. We also avoid products that are open core where a basic open source product is provided and then the enterprise version is closed source and provides additional features."

Lack of support was the top concern for companies in the previous question (**53.7%**), however, self-support is by far the preference for companies running open source software. Perhaps this indicates a lack of confidence in their internal team, or that they are too thinly stretched to adequately manage both the support and the required database configuration and optimization.

Given the correlation between these two questions, it might be worth companies taking time to examine the external options available, to increase their confidence in identifying and managing an issue if something goes wrong.

OSS SUPPORT PREFERENCES

Self-Support: Total 37%, Large 37%, Medium 54%, Small 69%

Third-Party Vendor Support: Total 15%, Large 15%, Medium 9%, Small 7%

Official Software Vendor Support: Total 49%, Large 49%, Medium 36%, Small 25%

Legend: Total | Large | Medium | Small

## Compelling Reasons to Use Enterprise or Subscriber-Only Database Software

> "Unfortunately, the culture in the company where I work is still very much proprietary-oriented, with little interest in open source solutions. Managers, especially, have fears when it comes to adopting open source technologies."

When it comes to using enterprise or subscriber only software, support continues to be a strong theme. **67.4%** of companies who use enterprise software or subscriber-only versions cite 24×7 support as the most compelling reason to use it. It is worth pointing out that expert (24×7) support is also available to open source software users, and generally much cheaper than it would be from an enterprise software vendor.

Peace of mind also rates highly at **41.8%**, as companies take comfort in the status quo and longer-established "brand" versions. Nearly **30%** are attracted by additional security features, often locked behind a pay wall for community users.

The availability of monitoring and management tools comes in second. However, there is a noticeable drop in their value in the management space.

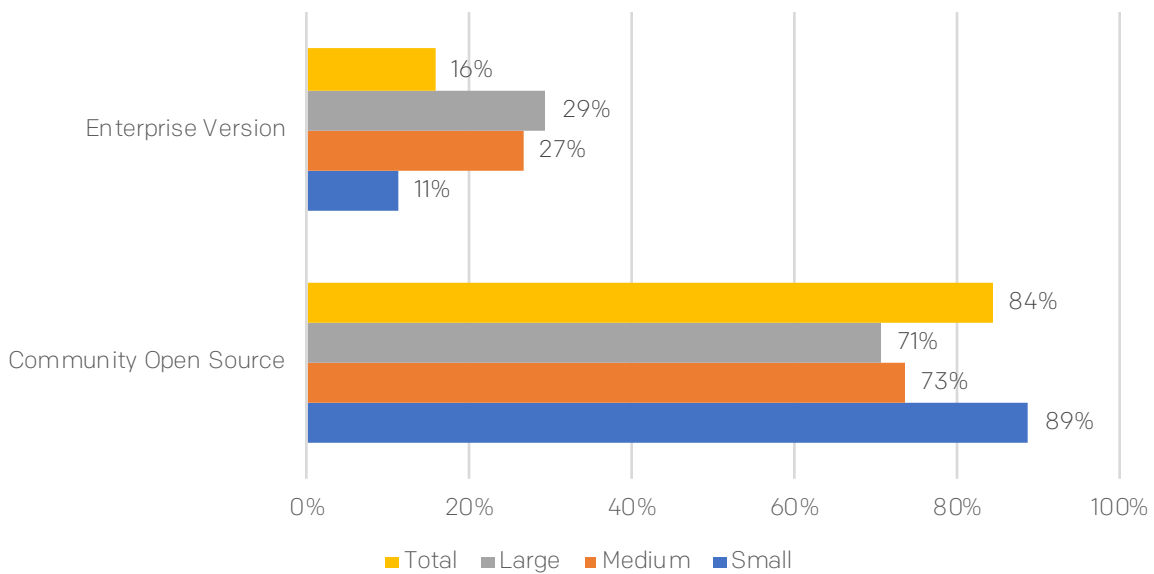### REASONS TO USE COMMERCIAL SOFTWARE
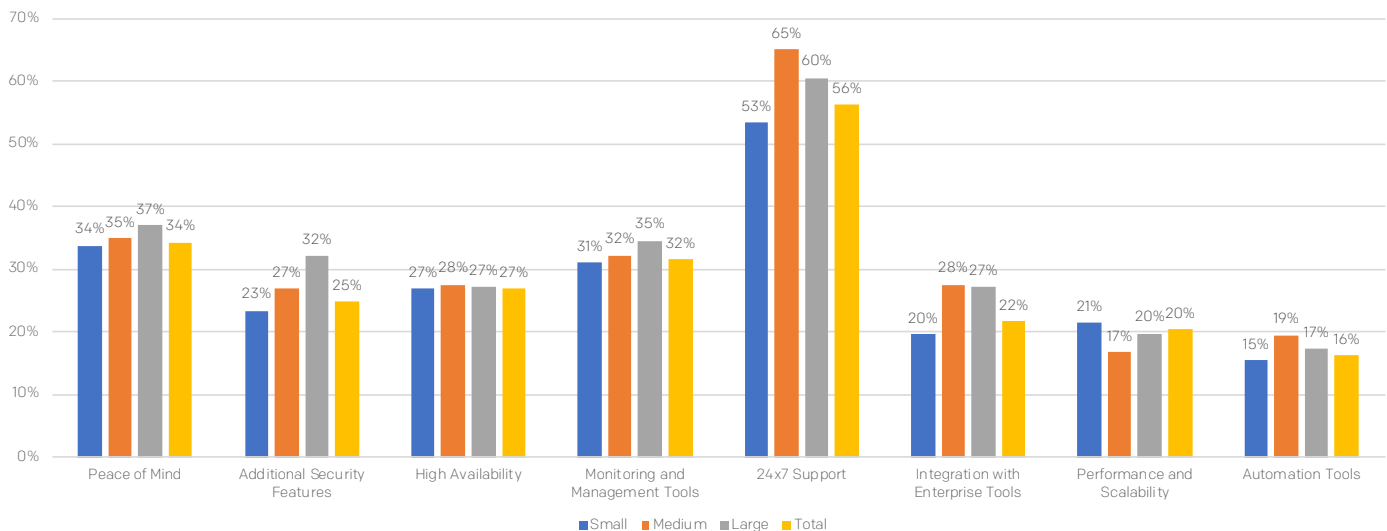
Preference for Enterprise or Subscriber-Only Version

> "We are a non-profit international NGO. We have limited resources for internal projects, and the clients we work with in the 3rd world have virtually no budget to pay for database licenses/maintenance/support. We go Open Source whenever possible."

Open source versions dominate here, with many companies preferring the inexpensive and nimble options afforded by open source technologies.

ENTERPRISE VS. OPEN SOURCE

Enterprise Version
- Total: 16%
- Large: 29%
- Medium: 27%
- Small: 11%

Community Open Source
- Total: 84%
- Large: 71%
- Medium: 73%
- Small: 89%

Legend: ■ Total ■ Large ■ Medium ■ Small

Importance Of License Type To Software Adoption

Most respondents are actively averse to adopting software with restrictive licensing. Only **8.5%** are very likely to adopt "not open" software, compared to **68%** being very likely to adopt "totally open" software.

TOTAL OPEN SOURCE LICENSE PREFERENCES

1 is not at all likely and 5 is very likely	1	2	3	4	5	TOTAL
Not open: Proprietary license with no source available	32% 232	25% 182	24% 174	9.23% 66	9% 61	715
Partially open: Source available licenses (SSPL, BSL etc)	12% 85	24% 168	40% 284	16.27% 155	8% 55	707
Open with restrictions: Copyleft licenses (GPL, AGPL, etc.)	6% 42	8% 55	28% 199	30.07% 215	29% 204	705
Totally open: Permissive licenses (BSD, MIT, Apache, etc.)	`2% 13	2% 16	12% 85	16.04% 115	68% 488	717

SMALL BUSINESS OPEN SOURCE LICENSE PREFERENCES

1 is not at all likely and 5 is very likely	1	2	3	4	5	TOTAL
Not open: Proprietary license with no source available	36% 184	27% 139	23% 121	6% 33	6% 32	509
Partially open: Source available licenses (SSPL, BSL etc)	13% 64	27% 136	38% 195	15% 78	7% 34	507
Open with restrictions: Copyleft licenses (GPL, AGPL, etc.)	6% 29	8% 40	28% 142	30% 153	28% 145	509
Totally open: Permissive licenses (BSD, MIT, Apache, etc.)	`2% 12	2% 9	11% 54	14% 73	71% 363	511

MEDIUM BUSINESS OPEN SOURCE LICENSE PREFERENCES

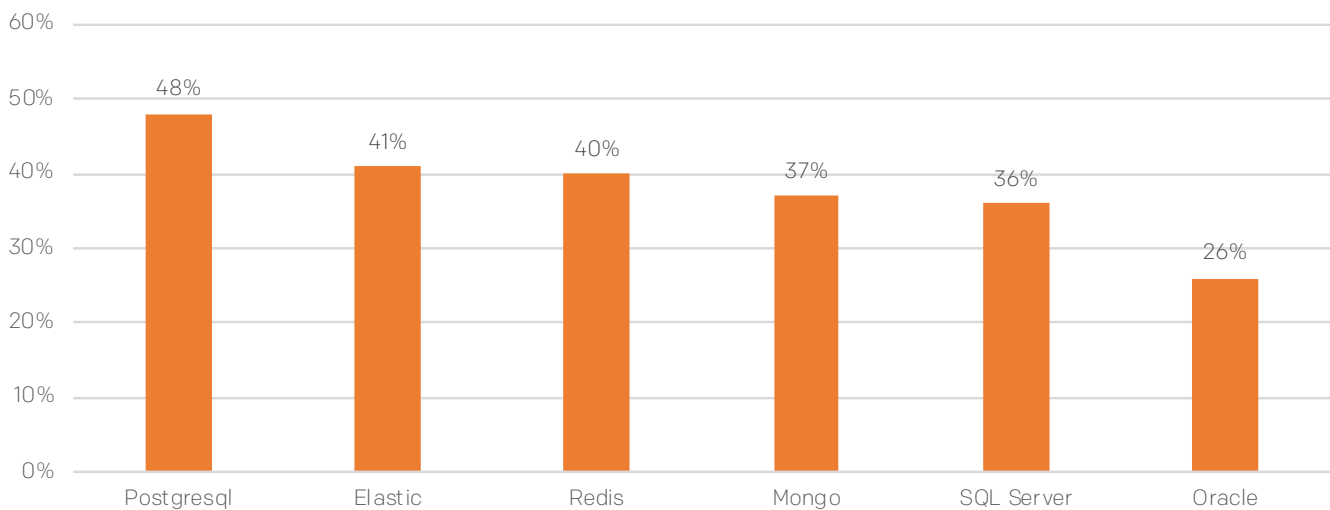| 1 is not at all likely and 5 is very likely	1	2	3	4	5	TOTAL
Not open: Proprietary license with no source available	25% 31	24% 28	25% 30	15% 19	14% 17	125
Partially open: Source available licenses (SSPL, BSL etc)	10% 12	21% 26	42% 53	18% 23	9% 11	125
Open with restrictions: Copyleft licenses (GPL, AGPL, etc.)	6% 8	9% 12	27% 35	30% 39	27% 34	128
Totally open: Permissive licenses (BSD, MIT, Apache, etc.)	`0% 1	1% 4	33% 15	23% 29	62% 79	128

LARGE BUSINESS OPEN SOURCE LICENSE PREFERENCES

1 is not at all likely and 5 is very likely	1	2	3	4	5	TOTAL
Not open: Proprietary license with no source available	19% 13	22% 15	28% 19	15% 10	15% 10	67
Partially open: Source available licenses (SSPL, BSL etc)	12% 8	9% 6	46% 30	18% 12	14% 9	65
Open with restrictions: Copyleft licenses (GPL, AGPL, etc.)	6% 4	4% 3	27% 18	28% 19	34% 23	67
Totally open: Permissive licenses (BSD, MIT, Apache, etc.)	`0% 0	6% 4	15% 10	16% 11	63% 42	67

> "Changing licenses can change adoption criteria or behavior. Vendors need to be aware of this and not think that current users won't change their adoption strategy because of such changes."
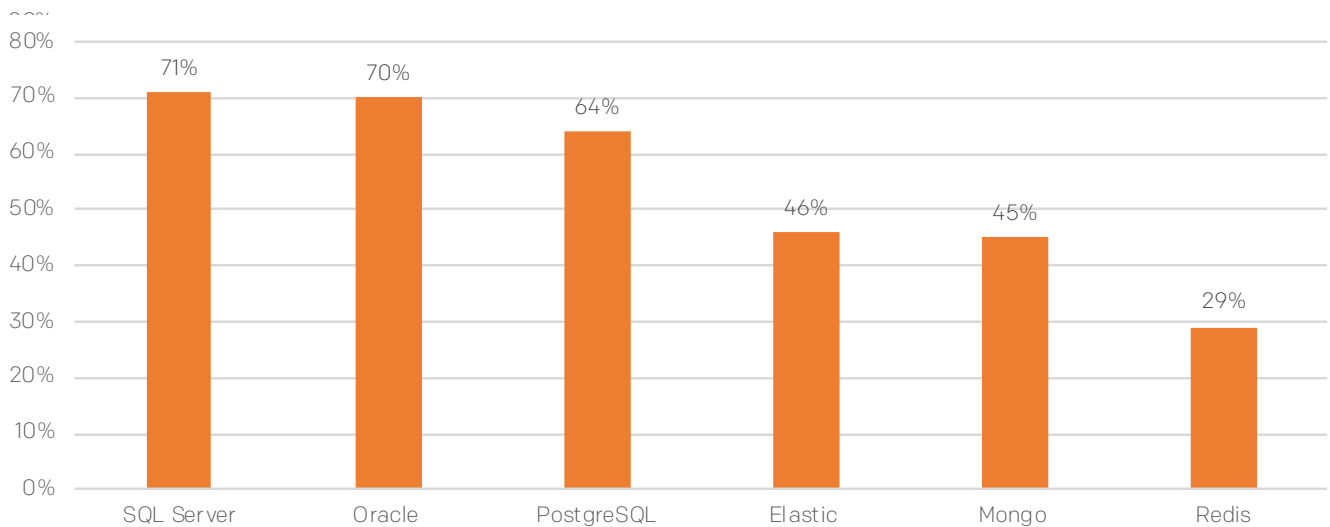
What Are the Most Popular Databases Used With MySQL?

Our survey looked at what databases are popular in combination with MySQL. Interestingly, we see Redis at only **29%** in the enterprise. Enterprises still use a lot of proprietary databases. Once the size of a company drops below five thousand employees, the percentage of proprietary database drops to **47%** for oracle and **59%** for SQL Server. It keeps dropping from there.

MYSQL

	Postgresql	Elastic	Redis	Mongo	SQL Server	Oracle
	48%	41%	40%	37%	36%	26%

MYSQL ENTERPRISE

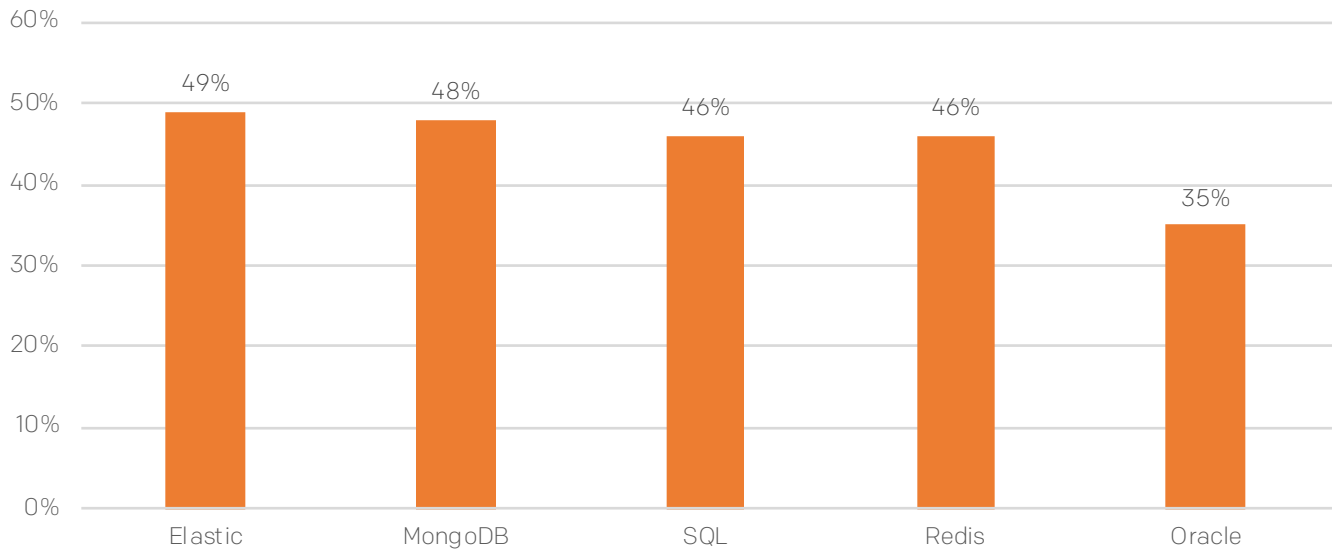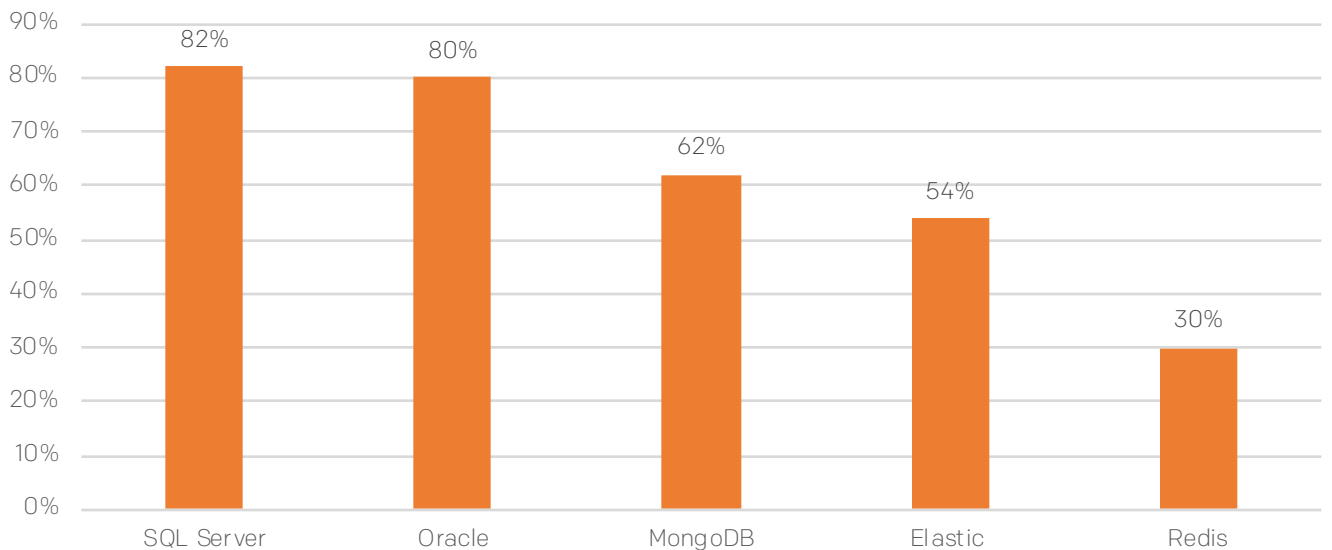|	SQL Server	Oracle	PostgreSQL	Elastic	Mongo	Redis
	71%	70%	64%	46%	45%	29%

What Are the Most Popular Databases Used With PostgreSQL?

84% of enterprise customers who responded are running some sort of proprietary database, only **16%** of enterprises are running only OSS databases. Compare this to overall (no size) **54%** said they run only OSS (or their enterprise versions) internally.

POSTGRESQL

Elastic	MongoDB	SQL	Redis	Oracle
49%	48%	46%	46%	35%

POSTGRESQL ENTERPRISE

| SQL Server	Oracle	MongoDB	Elastic	Redis
82%	80%	62%	54%	30%

Do You Pay for Support or Self Support?

Our respondents generally agree that they prefer to self-support their open source database environment rather than pay for support. This is (somewhat surprisingly) true across the board for both technical employment and management (regardless of the size of the company). For management, this could be a perceived cost issue. For technical roles, this could be an attempt to ensure job security.

In a later section, however, respondents claim that the fact that open source software doesn't generally include support options is a limiter to OSS adoption. Perhaps "support" is being used in different ways: the standard support included with commercial software that provides limited help (installs, easy configuration problems, etc.), and the type of support that is required for deep technical assistance in a particularly complicated environment (the kind people are reluctant to pay for unless they have a specific need).

MANAGEMENT
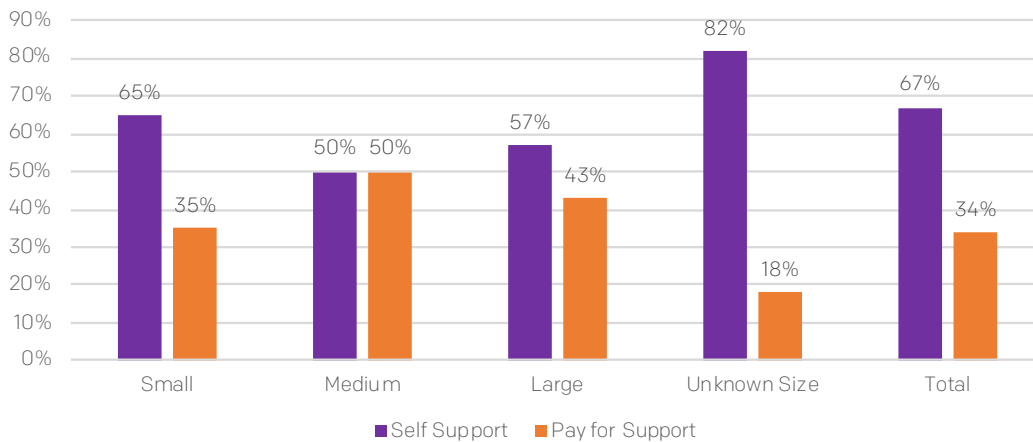
TECHNICAL EMPLOYEE
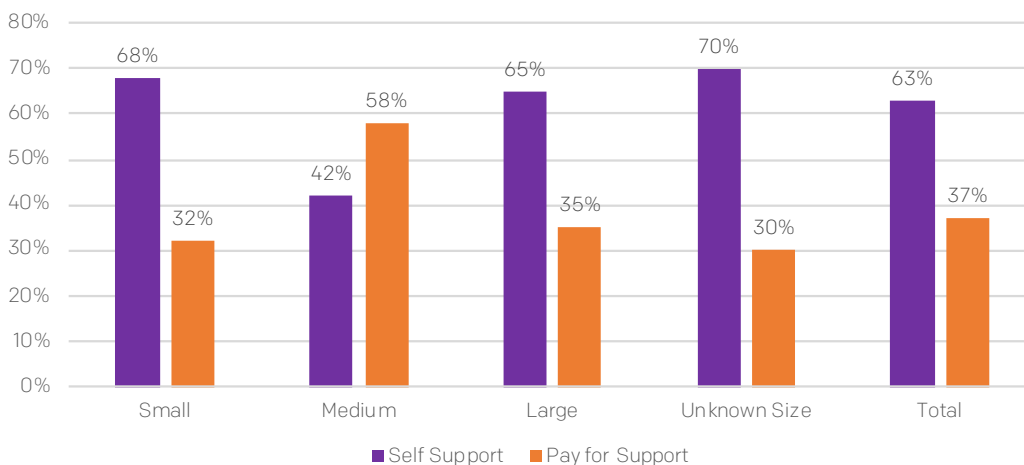
What Are Compelling Reasons to Adopt More Open Source Technologies?

The top two responses to this question are the same ones that dominate any open source discussion benefits: cost savings (**79.4%**) and avoiding vendor lock-in (**62%**). The benefit of having a community also scored highly (over **50%**).

There are some interesting differences between management and non-management answers to these questions.

There is an **8%** up tick in responses from management on avoiding vendor lock-in. It looks like larger enterprise management and non-management are on the same page about vendor lock-in. In small to medium companies, however, there seems to be a disconnect.

There is a **6%** up tick in those looking for additional security.

Those who list vendor lock-in as a critical reason to adopt OSS are on average **10%** less likely to buy support from a vendor (potentially viewing support as another form of lock-in).

REASONS TO ADOPT OPEN SOURCE
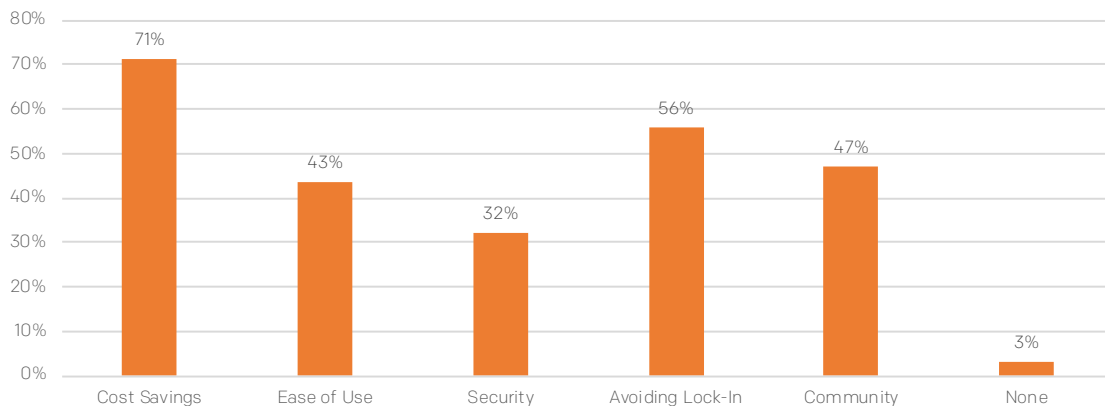
NON-MANAGEMENT

Size	Cost Savings	Ease of Use	Security	Avoiding Vendor Lock-in	Community
Small	72%	44%	28%	53%	48%
Medium	68%	43%	29%	52%	46%
Large	68%	40%	28%	60%	38%
Unknown	20%	20%	20%	10%	20%
Total	70%	43%	30%	53%	46%

MANAGEMENT

Size	Cost Savings	Ease of Use	Security	Avoiding Vendor Lock-in	Community
Small	74%	40%	38%	58%	46%
Medium	76%	48%	28%	72%	52%
Large	69%	19%	25%	56%	38%
Unknown	50%	50%	0%	0%	0%
Total	50%	42%	36%	61%	49%

618 respondent classified themselves as non-management, and 203 as management.

Concerns About Adopting Open Source Database Software

> "I believe all companies (especially start-ups) cannot afford to buy support plans."

Many companies are still wary of open source database technologies, with a perceived potential lack of support topping the list at **46%** for management, and **39%** for non-management respondents. The concern is similar amongst all company sizes.

There is a large jump in medium-size companies management respondents, **23%** higher than non-management. Medium-to-large size company management shows a **60%** combined concern around lack of support, compared to **44%** of technical users: that's a **16%** swing.

The second biggest concern is bugs, coming in at **32%** for both management and non-management. It is interesting that in large companies, management seems to be slightly less concerned (**9%** less). This could go hand in hand with larger companies who are willing to pay for support from vendors to get these fixed.

The third reason is security and compliance. It's interesting that the tech users here are a bit more concerned then the management — maybe because management expects tactical employees to be proactive on security and compliance needs.

There is a **16%** upswing in management's concerns about vendor lock-in versus technical respondents in the survey (in large companies). Overall, management is **4%** more concerned with vendor lock-in.

CONCERNS ABOUT OPEN SOURCE
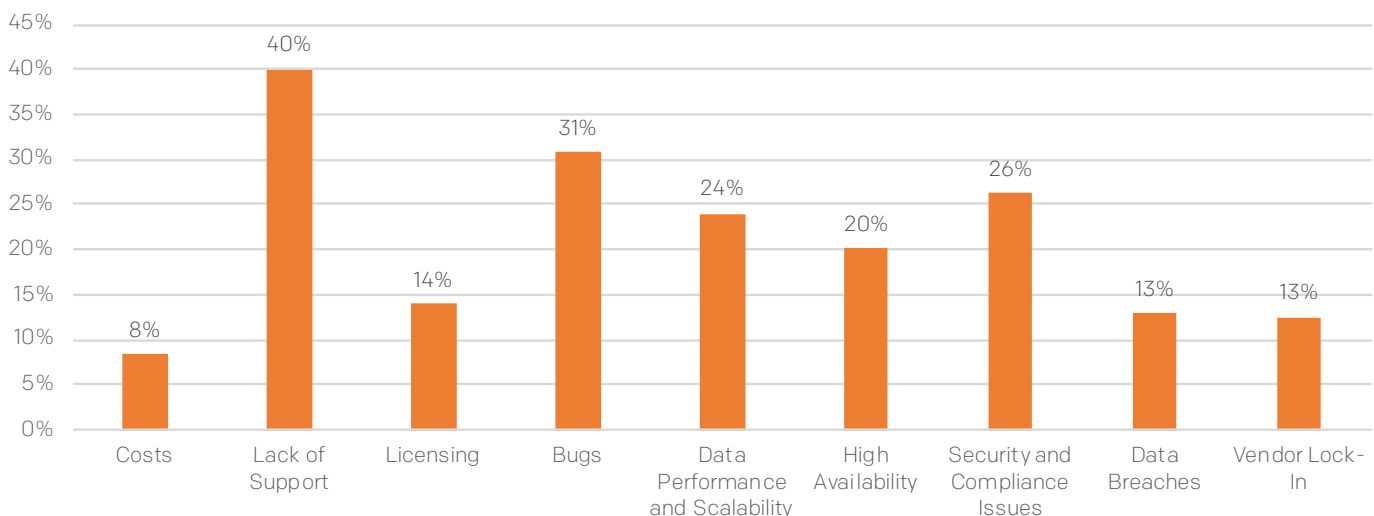
NON-MANAGEMENT

Size	Costs	Lack of Support	Licensing	Bugs	Performance Scalability	High Availability	Data Breaches	Security and Compliance	Vendor Lock-in
Small	7%	42%	14%	30%	24%	20%	12%	23%	12%
Medium	8%	43%	12%	35%	27%	26%	14%	37%	10%
Large	15%	45%	15%	34%	31%	23%	12%	45%	9%
Unknown	30%	30%	20%	30%	20%	20%	20%	20%	10%
Total	9%	39%	15%	32%	25%	21%	14%	27%	12%

MANAGEMENT

Size	Costs	Lack of Support	Licensing	Bugs	Performance Scalability	High Availability	Data Breaches	Security and Compliance	Vendor Lock-in
Small	7%	47%	18%	35%	28%	25%	15%	26%	18%
Medium	7%	66%	14%	34%	21%	28%	7%	28%	10%
Large	0%	50%	13%	25%	19%	6%	13%	31%	25%
Unknown	0%	0%	0%	0%	50%	0%	0%	0%	0%
Total	9%	46%	12%	32%	24%	21%	13%	26%	16%

Compelling Reasons to Run Enterprise or Subscriber Only Versions of Software

For respondents to this question, support continues to be a strong theme. **67%** of companies who use enterprise software or subscriber-only versions cite 24×7 support as the most compelling reason why. It is worth pointing out that expert 24×7 support is available to open source software users, and generally much cheaper than it would be from an Enterprise software vendor.

Peace of mind also rates highly at **42%**, as companies take comfort in the status quo and longer-established "brand" versions. As much as companies talk about agility, change can be very difficult.

Nearly **30%** are attracted by additional security features, often locked behind a pay wall for Community users.

Monitoring and management tools come in second. However, there is a noticeable drop in their value in the management space.

This could be an indication that management is less interested in "how" something is done, only that the systems perform and provide the data they need to make decisions.

NON-MANAGEMENT

Size	Peace of Mind	Security	High Availability	Monitoring/ Management Tools	24/7 Support	Integrate w/ Enterprise Tools	Performance Scalability	Automation Tools
Small	32%	23%	28%	32%	57%	21%	22%	17%
Medium	34%	27%	28%	32%	66%	29%	18%	22%
Large	40%	35%	28%	40%	62%	29%	22%	22%
Unknown	30%	10%	20%	20%	20%	10%	10%	10%
Total	34%	25%	28%	33%	56%	22%	21%	18%

MANAGEMENT

Size	Peace of Mind	Security	High Availability	Monitoring/ Management Tools	24/7 Support	Integrate w/ Enterprise Tools	Performance Scalability	Automation Tools
Small	42%	22%	31%	33%	52%	22%	19%	13%
Medium	38%	28%	24%	34%	62%	21%	14%	10%
Large	25%	19%	25%	13%	50%	19%	13%	0%
Unknown	0%	0%	0%	50%	50%	0%	0%	0%
Total	36%	22%	24%	27%	52%	19%	19%	11%

PERCONA

Conclusions

Percona would like to once again thank everybody who participated in this survey. It provides us and the entire open source community with interesting, timely, and useful information about how enterprises of all sizes are using, developing, and troubleshooting open source database software.

Percona is an open source company that is committed to supporting the goals and ideals of the open source community. We will continue to conduct surveys like this in the future, and continue to provide excellent data to community members.

As a champion of open source, we are committed to having data open and free to all.

Download the full data results at
percona.com/survey-2019

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