

# 5 Tenets for Your 2022 Database Management Plan

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# 5 Tenets for 2022 Database Planning

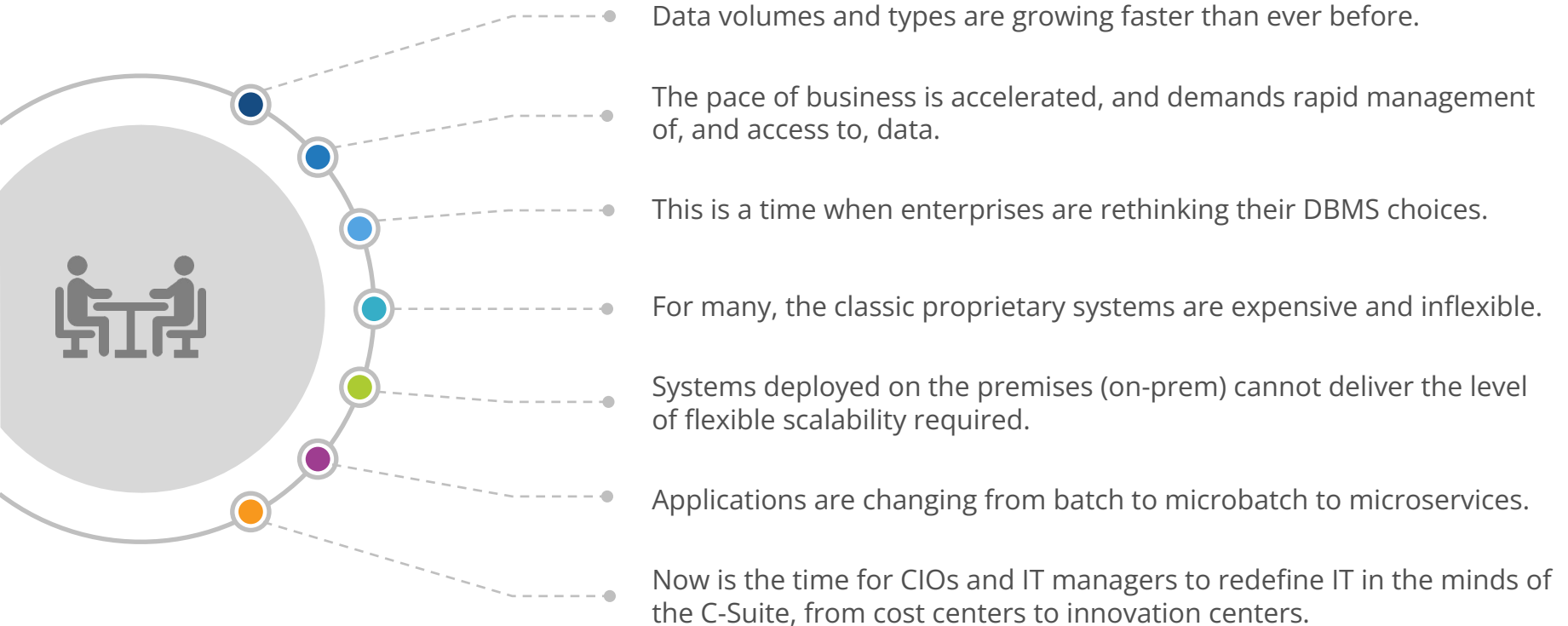
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# Agenda

- Background – The Moment of Decision
- Cloud Now or Cloud Later?
- The Argument for Open Source
- The DBMS Strategy: One for All (or most) Workloads, or Specialized?
- The Power of Relational
- The Five Tenets:
  1. Solid Technology
  2. Cloud Independence
  3. The Available Labor Pool
  4. Freedom to Switch Vendors
  5. The Importance of HA and Regional Scaling
- Conclusions/Recommendations

# Background – The Moment of Decision



# Cloud Now or Cloud Later?



IDC survey data shows that databases are being moved apace from on-prem to public cloud deployments (include survey chart).



Some are moving right away, directly using a “lift and shift” approach.



Others are building private clouds and moving gradually through a hybrid cloud model to the public cloud.



Whichever way they go, a commonly favored approach for databases is the full database cloud service; it ensures current technology, better security, and flexible deployment, without requiring excessive staff time.

# Polling Question 1

## Where are you in your database cloud journey?



1

No cloud so far



2

All private cloud



3

Some hybrid cloud (private and public cloud mixed)



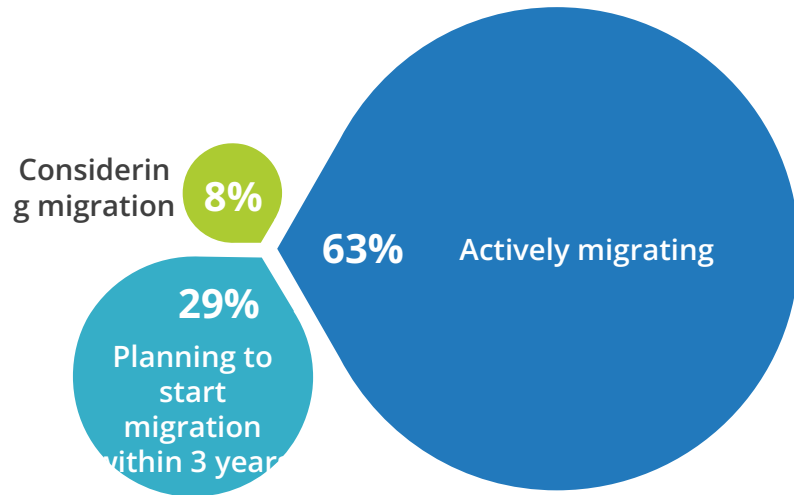
4

Moving to the public cloud altogether

# Cloud Now or Cloud Later? – IDC Survey

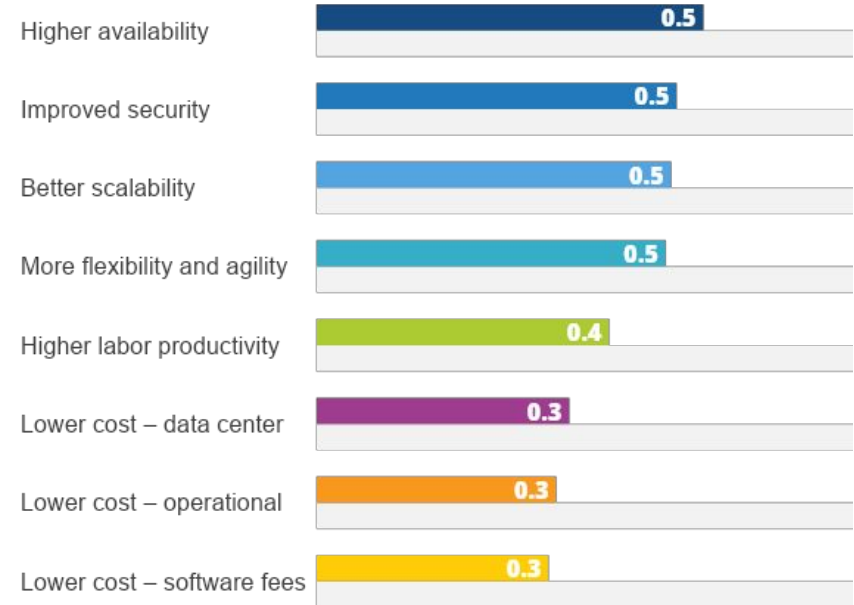
Q. Is your company migrating data from on-premises databases to cloud databases?

## Database Cloud Migration Status



Q. What benefits did you achieve after migrating your on-prem database(s) to the cloud?

## Benefits of Cloud Migration



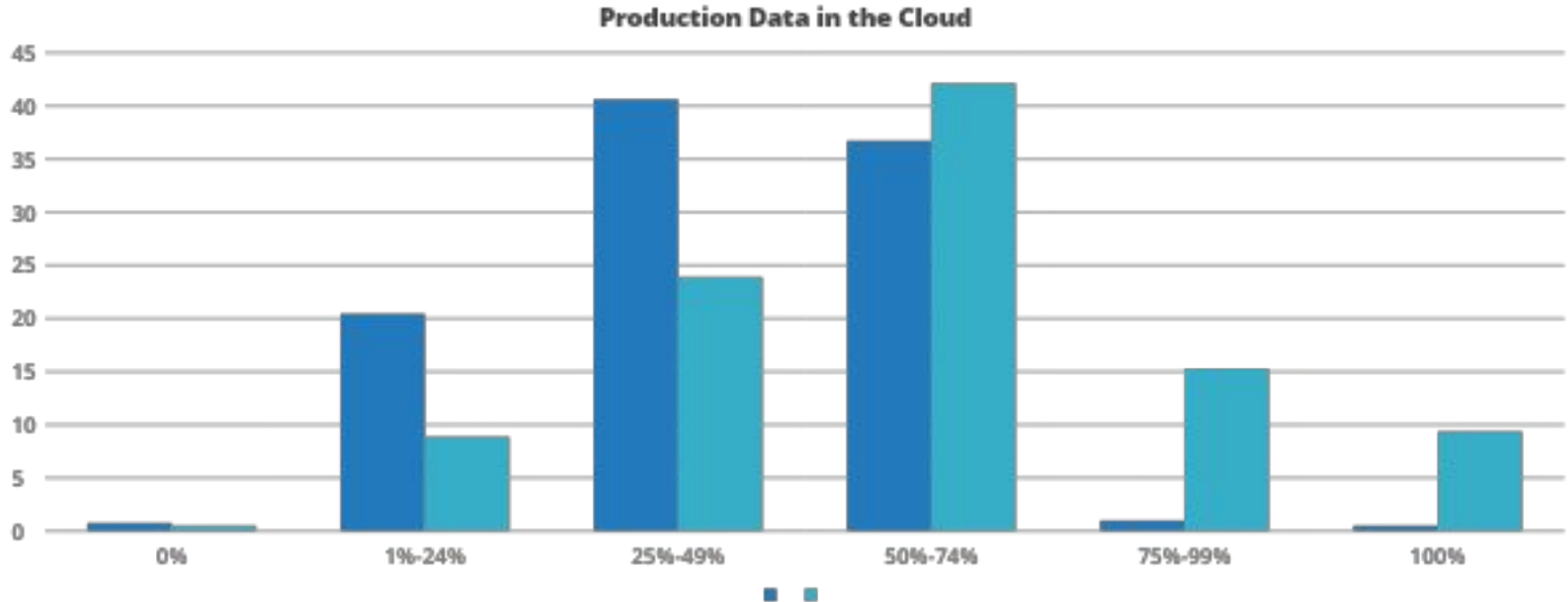
IDC# US46433821 (April 2021)

Source: US-Cloud Database Migration and Architecture Survey, IDC, December 2020, N=406

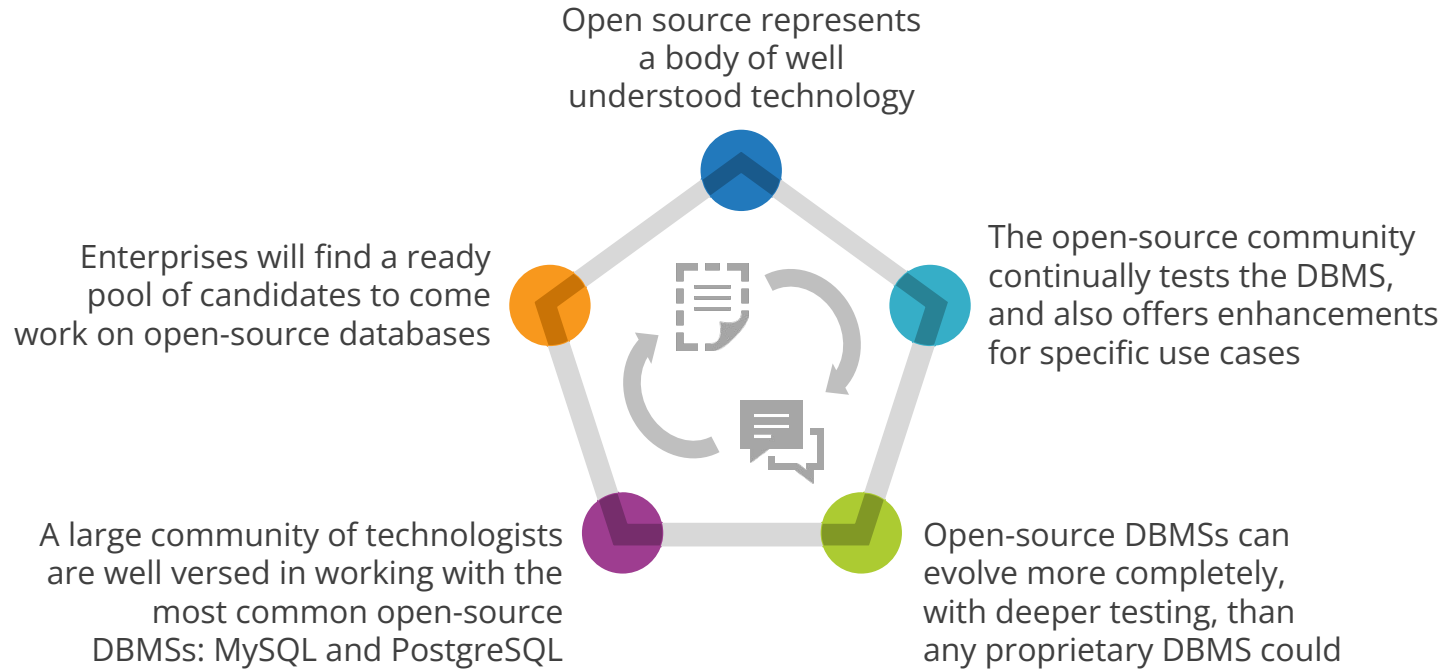


# Cloud Now or Cloud Later? Production Database Data in the Cloud

**Q. What percent of production data is currently in the public cloud and what percent do you expect to have in the public cloud within the next three years?**



# The Argument for Open Source



## Polling Question 2

### How do you view open source database?



1

We only use open source.



2

We use a mix of open source and proprietary, but plan to concentrate on open source going forward.



3

We are open to open source, but not ready to commit.



4

We are not interested in open source.

# The DBMS Strategy: One for All (or most) Workloads, or Specialized?

The current raging debate is this: Should we have one database for all data, or database systems that are specialized for different workloads?

The one database approach is problematic in that it cannot effectively handle the kinds of data and data structures for which it was not designed.

Recommendations in this regard:



For edge data, consider a document database or key-value store



For complex, incidental data relationship analysis, the graph may be your best bet.

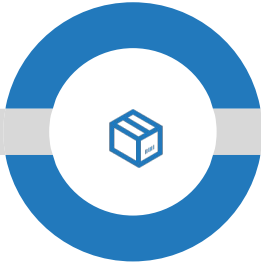


For constantly changing heterogeneous data, perhaps a data lake environment makes sense.



For standard business data, the best choice is a relational database.

# The Power of Relational



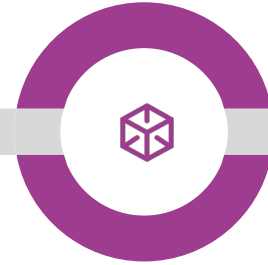
A relational database is meant for sharing data across many applications



The data is organized according to mathematical set theory, and so is not biased by a particular use case.



The relational database does not tolerate duplicate or inconsistent data, so it is highly reliable in this regard.



The relational database is the standard way of ensuring that data may be queried in any combination, without any prior regard for what queries may be posed and will give complete and consistent answers.

# The Five Tenets:



## Solid Technology

well established and well understood.

## Cloud Independence

ensures the ability to switch from one public cloud platform to another without converting data, changing applications, or switching management tools.

## Availability of Talent

must ensure a ready pool of talent to work on the databases now and over time.

## Freedom to Switch Vendors

Open source is a shared, public technology, so switching support vendors does not result in painful conversions and transformations.

## The Importance of HA and Regional Scaling

a key reason to go with a database cloud service is to get that HA capability, and the option to scale across regions, without technical design or implementation effort on your part.

# Conclusions/Recommendations

## Conclusions



- Big decisions loom on the horizon; enterprises are moving to the cloud.
- Going forward, databases must be more scalable, more robust, and more flexible.
- It may be time to look at other database technologies for the future.
- The cloud is the platform that enables such scalable flexibility in a manageable way.
- Open source offers database technology that is well tested and understood, with a ready pool of talent to work with it.

## Recommendations



- Choose a cloud strategy: gradual or immediate.
- Identify the database technology for each workload you anticipate.
- Standard business data demands relational; consider open source relational.
- For open-source database, committing to a full cloud database service makes the most sense.
- Will you be single cloud or multi-cloud? If multi-cloud, the database service must be independent of cloud platforms.
- Choose a cloud database service that you trust.
- The DBMS and support service you choose will be your companions for a long time, so choose wisely.



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# Postgres and the Five Tenets

Marc Linster, CTO

# Postgres and the Five Tenets

## Solid Technology

- Open source project for 25+ years
- Database pioneer: Mike Stonebraker (MIT)
- Database of the year 2017, 2018, 2020
- #1 StackOverflow
- #1 Datadog survey
- #1 CNCF Tech Radar

## Cloud Independance

- POSIX interface
- Every cloud
- Every OS
- All key hardware
- DBaaS, IaaS, K8s, VMs
- Same management tools

## Available Labor Pool

- Stackoverflow: most used + most loved + most wanted
- Amazon.com: 964 results for 'PostgreSQL' (books/english)



# Postgres and the Five Tenets

## Freedom to switch vendors

- Runs on every cloud
- All major Linux distros include Postgres
- Vibrant community: Credativ, Crunchy Data, Dalibo, EDB, Fujitsu, Microsoft, NTT, PeopleDoc, Postgres Pro, VMWare

## HA and regional scaling

- 99.99% (streaming replication)
- 99.999% (logical replication)
- Cross-AZ
- Cross-regional
- Hybrid cloud



## Five Tenets

- Solid technology
- Cloud independence
- Available labor pool
- Freedom to switch vendors
- HA and regional scaling

## Next Steps

- Computing Research: Why the Cloud should be your database default - [link](#)
- Replacing Oracle with Postgres: How To Successfully Migrate Your Legacy Databases - [link](#)
- Try BigAnimal, EDB's new managed cloud service - [www.BigAnimal.com](http://www.BigAnimal.com)



Questions?

Thank you!

