



+ SELECTING A DATABASE: THE FINANCIAL IMPACT

Database selection can have both financial and strategic implications for software vendors moving to a SaaS model. Uniquely suited for applications migrating to a cloud environment, NuoDB enables organizations to reduce time to market, lower upfront and ongoing infrastructure costs, and improve user experience.

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Selecting a database may seem like a purely technical decision, but in fact the database can directly impact total cost of ownership and time to market.”

A CHANGING MARKET

Software leaders face a stark reality. IDC predicts that the traditional software market is growing five times slower than the cloud software and software as a service (SaaS) market (which is growing at a robust 18.3 percent).*

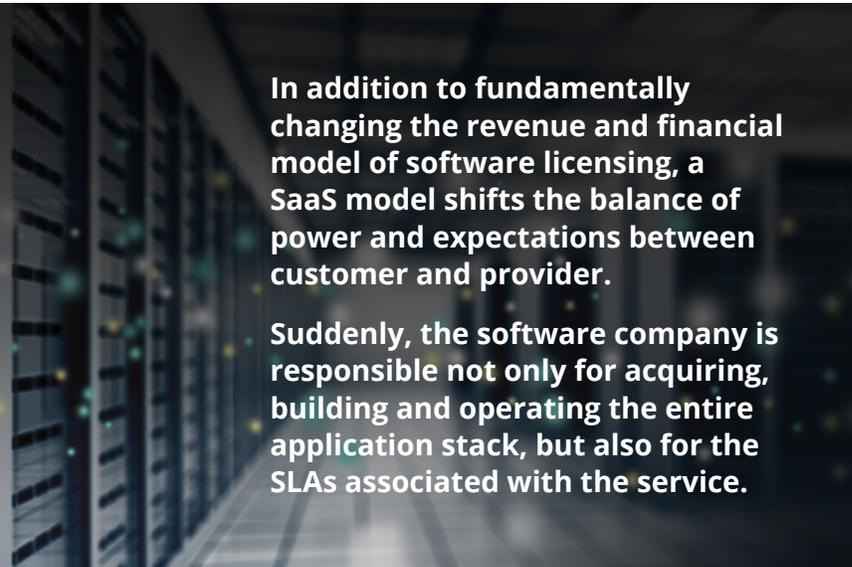
That's why so many software vendors are diversifying – and in many cases, completely migrating – their traditional, on-premises, perpetual license model with a cloud delivery model.

But while that strategic shift will be invaluable in the long run, your business (which previously had a primary focus on product features and quality) now has to grapple with a whole host of other SaaS-related considerations:

- New upfront infrastructure costs
- Application-level rearchitecture
- Service considerations like uptime and disaster recovery, and
- Drastically evolving sales and revenue models

On the surface, it may seem that selecting a database is purely a technical decision driven by the engineering team based on best-fit feature set. But in fact, the database is interwoven into each of the considerations outlined above.

* IDC, "Worldwide SaaS and Cloud Software 2015-2019 Forecast and 2014 Vendor Shares," B. McGrath, R. Majowald, Aug 2015



In addition to fundamentally changing the revenue and financial model of software licensing, a SaaS model shifts the balance of power and expectations between customer and provider.

Suddenly, the software company is responsible not only for acquiring, building and operating the entire application stack, but also for the SLAs associated with the service.

THE ROLE OF THE DATABASE

It is in this environment where the importance of your database choice comes into play.

The operational database is arguably the most expensive component of your application service, as well as the most difficult to manage at scale and often the most common source of customer problems and grievances.

Traditional relational databases – the ones your application almost certainly is built for today – suffer from a number of critical faults when deployed for hundreds, thousands, or even millions of customers in a cloud-based environment.

Built from its inception as an elastically scalable cloud database, NuoDB turns what is often your biggest headache (and source of significant costs) into a strategic asset by reducing time to market, enabling improved service, providing greater flexibility, and offering a cost structure more suitable to a SaaS environment than other database options.

Paying For SaaS Capacity When You Need It – Not All Up Front

A traditional database requires you to overprovision capacity and predict what you might need three, five, or even seven years from now. This overprovisioning is exacerbated in applications that experience seasonal peaks – which means you're paying for expensive hardware you won't use most of the time.

NuoDB enables you to pay only for the capacity you need today and add more when your SaaS business grows or in response to seasonal requirements.

A \$6.5 MILLION EXAMPLE

A multi-billion dollar product design software provider uses NuoDB to power its new cloud-based offering.

By taking advantage of this on-demand scalability, it estimates that it saves **~\$5 million in license costs a year** compared to a traditional relational database, as well as **avoids ~\$1.5 million in annual Amazon Web Services** costs for the accompanying infrastructure.

Driving Efficiency at Scale

Typical relational databases rely on dedicated, customized, and monolithic hardware. In a hosted model, the application provider implements the on-premises model in a hosted environment – effectively taking on the customer's infrastructure and management costs without exploiting any economies of scale.

To move beyond this expensive hosting model to a cost-effective SaaS model, development teams need to consider how to optimize the software to support many customers simultaneously on the

INCREASING UTILIZATION

In its original hosted environment, one mid-sized application vendor kept active use of system capacity to 30% to give more active customers headroom for growth.

With NuoDB, this company has been able to ***amortize the use of software and hardware across multiple customers through multi-tenancy***. Now, the operations team no longer needs to think about projecting a customer's future demands or playing musical chairs with fluctuating capacity.

same platform ("multi-tenancy"), while meeting or exceeding service level agreements and maintaining separation of their data and instances for security purposes.

NuoDB can run on commodity hardware and add resources on an as-needed basis, meaning you can drastically increase the percentage of resources that you utilize. But we take it a step further: we can also support the concept of multi-tenancy in the database – which is critical to the multi-tenancy support in your application.

Ultimately, this means **fewer licenses to support, less hardware to manage, and simpler administration of the system as a whole** – delivering a significant savings over a simple hosted model.

Speeding Time to Market

The process of taking an on-premises application and making it suitable for delivery as a service in the cloud isn't trivial. Not only does the application need to support increasing user volume across multiple customers, it also needs to be set

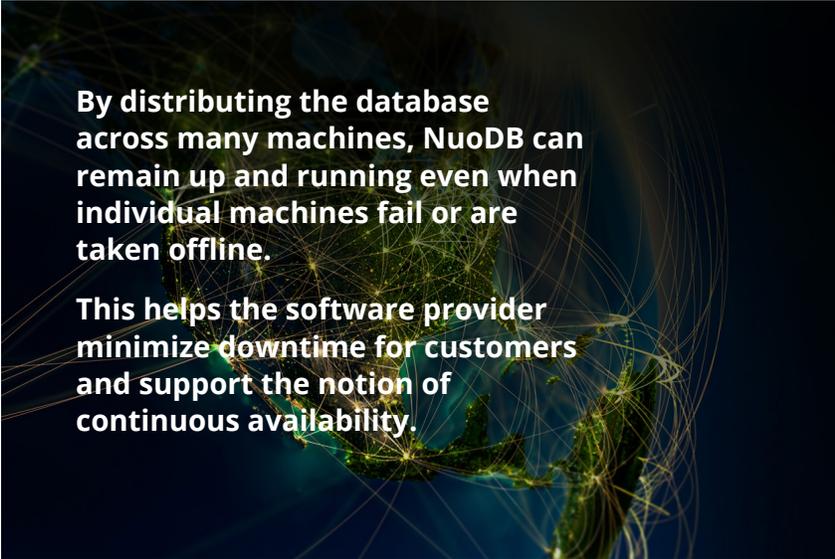
up to provide high – or even "continuous" – availability to meet strict SLAs and an often global customer base, which means the typical SaaS architecture requires costly redundancy and complex replication as well.

Yet at the same time, time to market is critical to create or maintain competitive advantage.

Traditional relational databases are poorly suited for this environment and the popular NoSQL databases that provide scale and continuous availability require massive application rewrites to work because they don't maintain the same data guarantees and programming language (SQL) most on-premises applications require.

By preserving SQL and the transactional consistency and data durability expectations your application needs, NuoDB:

- Makes it easier to reuse existing code
- Exploits the expertise and skills already present in your development organization
- Reduces the time and resources it takes to make application changes



By distributing the database across many machines, NuoDB can remain up and running even when individual machines fail or are taken offline.

This helps the software provider minimize downtime for customers and support the notion of continuous availability.

THE STRATEGIC DATABASE

Ultimately, providing software as a service in addition to (or instead of) an on-premises model is a strategic business decision. What isn't immediately apparent is that the database provides a critical role in ensuring the success and relevance of every factor that influenced that decision.

From a financial perspective, NuoDB can:

- Reduce infrastructure costs (by using commodity hardware and eliminating pre-provisioning)
- Speed time to market (by minimizing application rearchitecture)
- Maintain SLAs (by remaining up through outages and upgrades)
- Maximize existing resources (through multi-tenancy, capitalizing on existing skills, and increasing utilization)

Lower services costs allow ISVs to increase addressable markets, fuel faster adoption, and reduce the time-line for break-even on the initial investments.

These are just some of the ways that



NuoDB's purpose-built SQL database combines the simplicity, rigor, and reliability of a traditional relational database with the elasticity, agility, and global accessibility provided by the cloud.

As application vendors and enterprises increasingly turn to the hybrid cloud to support their growing, global, and increasingly mobile, customer base, they rely on NuoDB as the only database that can maintain transactional consistency and integrity at global scale. These

software vendors have financially benefited from their strategic decision to use NuoDB as the database for their new software as a service offering.

PILING ON THE SAVINGS

For one global financial software vendor with a hosting budget of \$100M a year, the use of NuoDB resulted in **savings of \$3 million** in the first year alone and will increase significantly as more applications are ported over. Over time, **the savings are projected to reach 20-30% of the hosting budget**. Moreover, NuoDB will result in a **50% decrease of hosting infrastructure investment per new customer**.

organizations trust NuoDB to meet all their needs – active-active deployment, elastic scalability, data residency, and more – as they run applications in the cloud.

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