

A Custom Technology Adoption Profile Commissioned By DataStax

# Distributed Databases Drive Agility And Competitive Advantage In Cloud Applications

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## Overview

New business requirements are driving organizations to be more agile, deliver new customer-focused cloud applications, and support real-time data. The firms poised to develop these best-in-class apps of tomorrow are making data management a priority today. They realize that these new apps require data from many diverse sources, and that silos of data cannot be easily leveraged due to complexity, localization requirements, and extreme volume growth. Distributed databases have become critical for enterprises to succeed in the big data era by allowing them to overcome challenges around complex data structures, data silos, data availability, and data growth.

In November 2015, DataStax commissioned Forrester Consulting to evaluate the challenges of big data and the capabilities of distributed databases, based on Forrester's own market data and a custom study of the same audience.



### Demographics

50 CIO/CTOs and enterprise architects responsible for data management strategy at US companies of 1,000 or more employees

**36%**

I am the final decision-maker for my organization's data management strategy.



**64%**

I am part of a team making decisions for my organization's data management strategy.



### Additional demographics

- › 50% enterprise architects
- › 50% CIOs, office of the CIO, CTO

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## Top Data Challenges Center On Compliance And Performance

Today, enterprises face performance and scaling issues for critical applications, queries, analytics, and transactions. Business users want real-time and trusted data to make better business decisions, while IT wants to lower cost, minimize complexity, and improve operational efficiency. Despite improvements, enterprises still face unpredictable workloads, increasing data volume and usage, unoptimized data access approaches, and poorly designed apps. According to our survey, the top data management challenges today are dealing with security and compliance, delivering high performance for critical apps and analytics, integrating across disparate data sources, and handling large volumes of data in different data formats.

*Sixty percent of respondents said that delivering higher performance for critical apps and analytics is a top data challenge.*

“What are your top data management challenges today?”

(Select all that apply — top four shown)



Base: 50 US CIOs and enterprise architects responsible for data management strategy at US companies of 1,000 employees or more  
Source: A commissioned study conducted by Forrester Consulting on behalf of DataStax, November 2015



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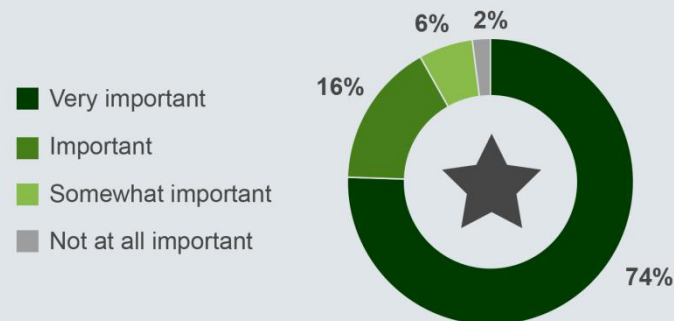
## Next-Gen Cloud Apps Demand Continuously Integrated Data

Today, enterprises face increasing data integration challenges because of growing data volume, data complexity, and increasing silos of data repositories. Business users want faster access to trusted real-time information to help them make better business decisions. As a result, enterprises are finding themselves on a never-ending quest to write programs to perform complex integration, especially those that require data from new sources like social media, logs, software-as-a-service (SaaS), and devices. Next-gen cloud applications demand these sources of data be continuously available and integrated to meet growing business demands.

*Seventy-four percent of respondents said that having an application available/active at all times is very important when building new applications.*

“When building new applications, how important are the following application characteristics?”

(Application is available/active at all times)



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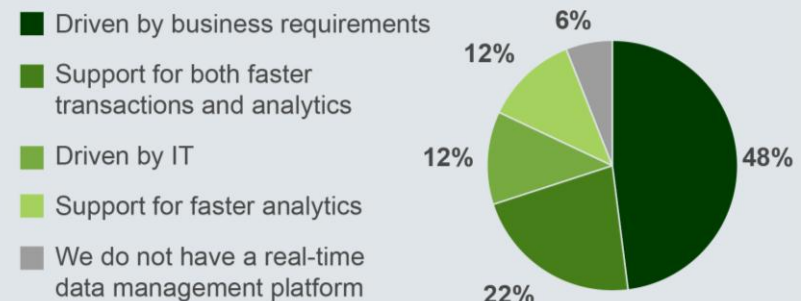
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## Businesses Recognize The Need For Real-Time Data Management

To drive agility, efficiency, and better user experiences, businesses have recognized the need for real-time data management:

- › Forty-eight percent of respondents indicated that business requirements are the primary driver for real-time data management platforms, as opposed to the 12% whose investments are driven primarily by IT. The need for highly available and reliable data platforms is something that businesses have taken notice of, as they realize the importance of data performance in the next generation of cloud and business applications.
- › Twenty-two percent of respondents said the primary business driver for real-time data management is support for both faster transactions and analytics. While traditionally, databases for transactions and analytics were separated and optimized for the function, databases that can combine the two can provide faster support, including real-time analytics, while minimizing complexity and eliminating the challenge of integrating disparate data sources. Forrester calls these new databases “translytical databases.”

“What is the primary business driver for investing in a real-time data management platform in your environment?”



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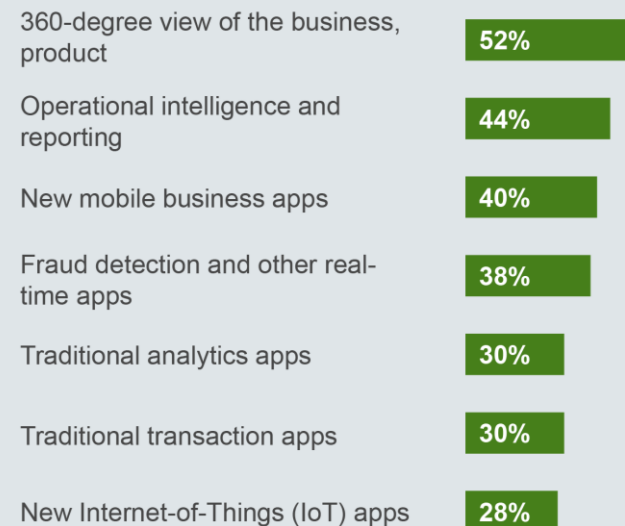
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## Distributed Databases Support New Types Of Cloud Applications

Cloud applications rely on always-available data from many different sources. Key cloud applications supported by distributed databases include:

- › **A 360-degree view of the business apps.** To get a complete view of the business, firms must aggregate data from disparate sources and different formats. Having this data always available is essential to improving the business with real-time insights and predictive analytics.
- › **Mobile business apps.** Mobile apps leverage advanced analytics and multiple data types, including contextual data, to deliver an optimized experience in real time.
- › **Real-time apps.** Real-time apps require continuous data with no interruptions or slowdown in order to operate effectively.
- › **Internet-of-Things (IoT) apps.** These are new types of apps that require supporting sensor data in real time to perform analytics and advanced proactive monitoring.

“Which use cases are driving the demand for continuous global data availability at your organization?”  
(Select all that apply)



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### Distributed Databases Are Designed To Power Next-Gen Cloud Apps

Next-gen applications will require data that is always available, regardless of where that data is, the volume required, or the data's complexity. The data may be distributed across many data silos and both structured and unstructured. Firms will need to rely on data technologies that can deliver high data performance and availability. Distributed databases deliver data with high availability and performance to power next-gen cloud applications. Cloud enables dynamic scale and elasticity to support any type of next-generation business application. Whether firms are provisioning one server or a thousand, provisioning can be done in minutes and servers can be colocated.

*Only 32% of US enterprises have implemented distributed NoSQL databases today. However, nearly 30% are planning to implement NoSQL in the future, as organizations realize the importance of data platforms that are distributed, always available, and able to scale on demand.*

“What are your firm's plans to use the following BI data management technologies?”  
(Distributed NoSQL databases)

**32%**

Implemented or expanding

**29%**

Interested or planning to implement

**20%**

Not interested

**19%**

Don't know

Base: 432 US data and analytics technology decision-makers at companies with 1,000 employees or more  
Source: Forrester's Global Business Technographics Data And Analytics Survey, 2015



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## Conclusion: Distributed Databases Should Be Part Of Your Enterprise Data Management Strategy

All enterprises can benefit from distributed databases to support integrated real-time analytics, predictive analytics, extreme transactions, and other workloads and patterns. Distributed databases help achieve a comprehensive single version of the truth for the business, partners, and customers. Firms that invest in distributed databases will use business data to create more powerful cloud and business apps; respond more quickly to customer needs and competitive threats; grow faster than their competitors; and deliver innovative new products and services.

### METHODOLOGY

- ▶ This Technology Adoption Profile was commissioned by DataStax. To create this profile, we leveraged Forrester's Global Business Technographics® Data And Analytics Survey, 2015. Forrester Consulting supplemented this data with custom survey questions asked of US CIOs/CTOs and enterprise architects responsible for data management strategy at companies of 1,000 employees or more.
- ▶ The auxiliary custom survey was completed in November 2015. For more information on Forrester's data panel and Tech Industry Consulting services, visit [forrester.com](http://forrester.com)

### ABOUT FORRESTER CONSULTING

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