
EDB
Postgres AI
The Power of Postgres® High Availability:
3 Customer Success Stories

Extreme high availability: A database essential

In today's digital landscape, where global business operations and artificial intelligence intersect, the demand for always-available, high-performance data services has never been more critical. The challenge is no longer about simply storing data—it's about ensuring consistent uptime and 24/7 access to essential assets and mission-critical applications across time zones, devices, and geographic boundaries.

In the experience of EnterpriseDB (EDB) when talking to customers about the benefits of Postgres, extreme high availability has come up time and time again as one of the key drivers for migration and infrastructure modernization. As data volumes expand and user expectations rise, adopting an always-on database is key to ensuring that applications and customer-facing services remain fully operational, even in the face of unexpected disruptions.

3 must-read success stories

This guide is designed not only to demonstrate the undeniable importance of high availability in databases but to explore how businesses are augmenting Postgres to maximize uptime, performance, and reliability. Discover the full potential of Postgres extreme high availability, as told by three enterprises who have witnessed it firsthand.

1. **telegra:** EDB provides high availability and takes a mission-critical telecommunications database to the next level, reducing downtime and freeing up resources.
2. **ClickUp:** EDB ensures consistent uptime for a global project management software provider, building and solidifying customer satisfaction.
3. **ACI Worldwide:** EDB helps a leading payment solution provider enhance its platform, reduce costs, and guarantee availability for a rapidly growing customer base.

EDB Postgres® AI

CUSTOMER SUCCESS STORIES

telegra Ensures 24/7 Database Availability with EDB Postgres Distributed

CUSTOMER: **TELEGRA**

EDB SOLUTIONS: Postgres Advanced Server, EDB Postgres Distributed

INDUSTRY: Telecommunications

20
years of experience

30
million calls

90
million minutes of call time per month

EDB Postgres AI

About telegra

telegra is a next-generation telecoms provider with more than 20 years of experience as a telephone network operator and telecoms application developer. Headquartered in Germany, telegra's business is rapidly expanding across Europe, with 30 million calls handled and 90 million minutes of call time each month. telegra's web-based automatic call distribution (ACD) solution for call centers enables organizations to centralize their entire telecommunication in telegra's cloud and manage it through an integrated web-based interface.

Key takeaways

By leveraging EDB Postgres Advanced Server and EDB Postgres Distributed, telegra achieved its goal of synchronizing data centers with no major downtime. The customer also leveraged EDB Postgres Distributed as a contingency plan for any potential failure or "network split-brain" scenario. Because telegra can rely on EDB's support and solutions, the company has more available time and resources to focus on innovating customer-centric applications.

Addressing the need for 24/7 IT availability and round-the-clock support

The rise of cloud services and consumer-friendly technology has transformed telecommunications, raising customer expectations for uninterrupted connectivity. telegra's clients demand round-the-clock service reliability—downtime is simply not an option. When the pandemic forced telegra's call center customers to shift to remote work, it highlighted the importance of availability and scalability. The rapid transition accelerated demand as new customers sought ready-to-deploy solutions for their distributed workforces.

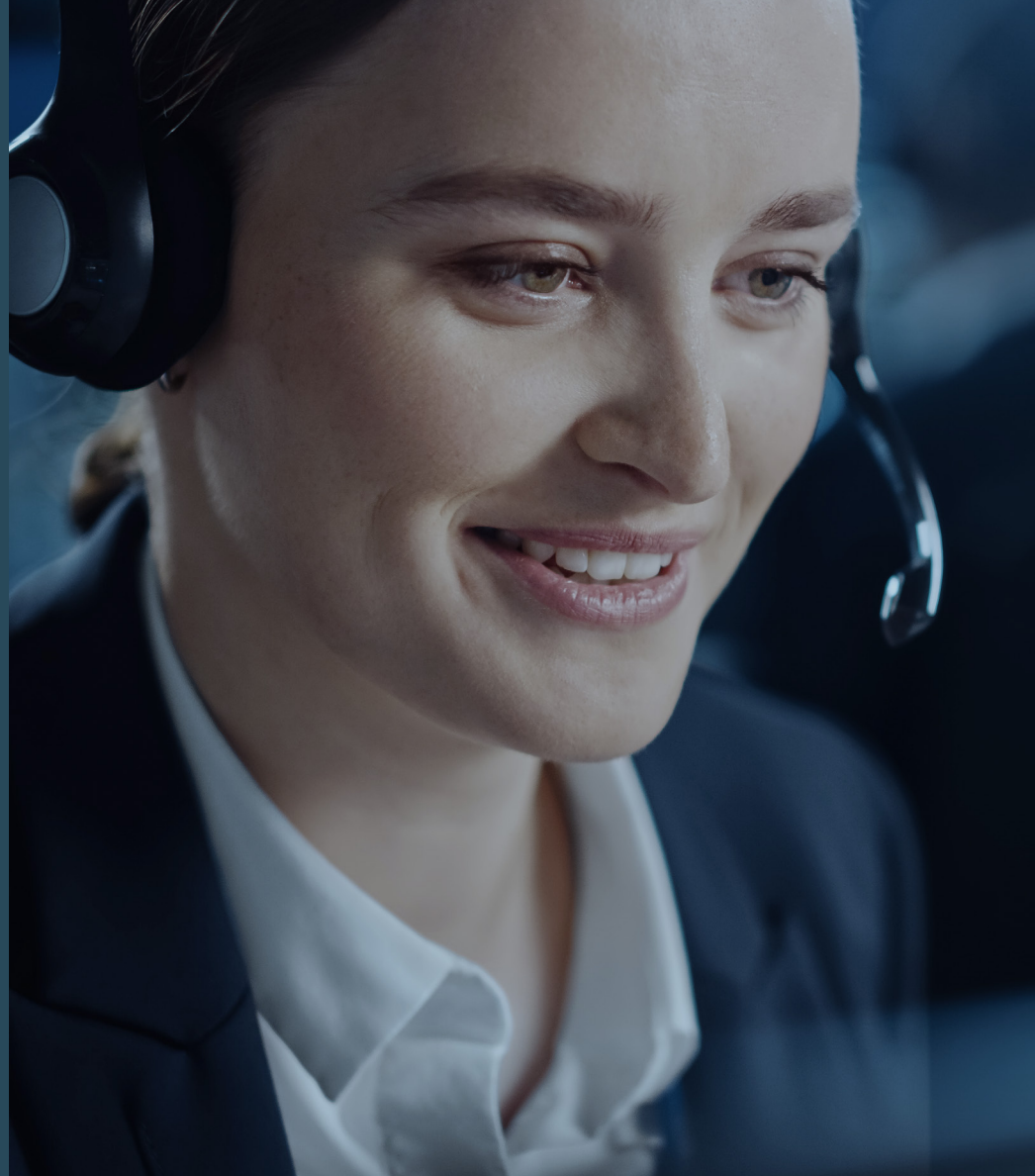
While telegra's VoIP infrastructure always had a primary-primary data center model, the web applications used a binary primary-failover data center model, which limited the ability to respond quickly to changing customer demand and ensure 24/7 availability. As a result, in 2018, telegra began redesigning its IT infrastructure for more agile service development. This redesign involved moving away from traditional databases such as Oracle and embracing an open source approach in the company's two data centers in Germany.

Achieving true high availability with EDB

telegra adopted EDB Postgres Advanced Server with EDB Postgres Distributed across both its new Dusseldorf and Cologne data centers, which enabled the company to switch from a primary-failover to a primary-primary setup. EDB Postgres Distributed synchronizes data configuration, routing plans, and call detail records, allowing telegra to keep its customer data highly available and synchronized at all times.

These solutions, combined with EDB's deep Postgres experience and 24/7 support, ensured that telegra could achieve true extreme high availability.

EDB Postgres AI



EDB Postgres AI

“Although Postgres is easy to use, it is always reassuring to have someone in the background with expertise to fix any potential challenges, especially as it is now our main database. EDB has always been very responsive if there were any issues. This has given telegra the confidence and peace of mind that it can support the business.”

Christian Blaesing
Head of IT
telegra

Zero downtime and full synchronization across data centers

Since adopting EDB Postgres Advanced Server and EDB Postgres Distributed, the telegra team has experienced no major downtime. On the contrary, the team now has more time to build improvements into software applications. They’ve also managed to reduce database complexity, increase security, and cut licensing costs.

Thanks to EDB Postgres Distributed, telegra’s data centers are perpetually synchronized, with advanced failover mechanisms that prevent unnecessary downtime and network “split-brain” scenarios. With all of these essential requirements handled via EDB, telegra can now dedicate its time and resources to customer-centric application innovation.


EDB
Postgres AI
CUSTOMER SUCCESS STORIES
ClickUp Powers Global Reliability with EDB Postgres Distributed

ClickUp

CUSTOMER: **CLICKUP**

EDB SOLUTIONS: EDB Postgres Distributed, EDB Support

INDUSTRY: Project management software

EDB Postgres AI

About ClickUp

ClickUp is a SaaS project management and collaboration software that makes the world more productive with its intuitive design. ClickUp's customers range from individuals and small businesses to large corporations such as Apple, Nike, Uber, Google, and Airbnb. The platform helps users manage tasks, documents, conversations, and timelines all in one place. With more than 100,000 teams worldwide, ClickUp is the fastest-growing productivity software, due to its unique, customizable user experience and cutting-edge features.

Key takeaways

Thanks to EDB, customers who rely on ClickUp's solution are experiencing consistent and reliable performance for crucial workflows. EDB's solutions helped ClickUp maintain seamless performance during PostgreSQL and Postgres Distributed updates. ClickUp's systems are now capable of effectively managing massive data volumes across seven nodes while maintaining 99.999% uptime.

Global growth creates availability challenges

ClickUp has been using PostgreSQL as the backbone of its systems since its inception. The platform attracted users at a global scale, creating incredible and unexpected growth. Due to scaling needs, ClickUp identified a geographically distributed cluster with distributed PostgreSQL databases as the best solution.

While engineers were spending several hours daily optimizing the system, the ClickUp team began looking for a multi-master solution to overcome the performance issues faced by customers. ClickUp identified BDR (Bi-Directional Replication) v1 for its geographically distributed needs, with ClickUp CTO Alex Yurkowski stating it was "the only real multi-master solution for Postgres databases."

As ClickUp continued to grow, the complexity of the application's scalability and performance requirements increased. Exhausted by the efforts required, it became clear to internal resources that they were hitting the limits of performance and scalability in BDR v1. ClickUp's tech team approached EDB for a solution. After a thorough analysis, the EDB team recommended that ClickUp move to EDB Postgres Distributed v3 for solving the performance and scalability issues brought on by the older version of BDR.

> ***“We attribute help in our growth to EDB Postgres Distributed, since we now have consistent performance globally and are able to grow our business in multiple regions.”***

Alex Yurkowski
CTO
ClickUp

EDB Postgres AI

Maintaining optimal performance and peak uptime during a mission-critical upgrade

EDB’s team of PostgreSQL experts helped ClickUp upgrade to EDB Postgres Distributed v3 within the planned downtime. Using industry best practices and ClickUp’s business requirements, the cluster was optimally configured using EDB Postgres Distributed. This allowed ClickUp to scale its system for exponential growth while delivering peak performance to its customers.

Achieving uninterrupted uptime and high availability across the globe

ClickUp’s cluster holds 300 GBs of data distributed over seven nodes. The present configuration, with multiple master nodes, has allowed the company to set up high availability across some regions, while the remaining regions transition incrementally. This enabled the platform’s 99.999% uptime for a consecutive 12 months.

Acknowledging the importance of having PostgreSQL experts available around the clock, ClickUp also subscribed to EDB’s 24/7 support.

“EDB’s support has helped us to upgrade our PostgreSQL and Bi-Directional Replication version with zero downtime to ensure we are getting the best performance out of our database cluster,” says ClickUp CTO Alex Yurkowski.

EDB Postgres AI

CUSTOMER SUCCESS STORIES

ACI Worldwide Modernizes Software Architecture While Reducing Risk and Lowering Costs with EDB

CUSTOMER:
ACI WORLDWIDE

EDB SOLUTIONS: EDB Postgres Distributed

INDUSTRY: FinTech, payment platforms

19 out of 20
of the world's top banks

$14 trillion
in payments and securities transactions every day

EDB Postgres AI

About ACI Worldwide

ACI Worldwide is a global software company that provides mission-critical real-time payment solutions to corporations. Customers use the company's proven, scalable, and secure solutions to process and manage digital payments, enable omni-commerce payments, process bill payments, and manage fraud and risk.

Key takeaways

ACI Worldwide achieved optimal database and application performance with the help of EDB Postgres Distributed. With EDB's Postgres expertise and guidance, ACI Worldwide built the ideal database architecture for its business and customer needs, enabling ACI to drastically reduce costs and eliminate licensing restrictions.

“Given the financial nature of the transactions we process, we not only need multiple data centers for redundancy, we need those data centers to be fully synchronized in real time.”

Jack Bloch
Senior VP of Software Engineering
ACI Worldwide

EDB
Postgres AI

The search for database efficiency

Boasting 19 of the world’s top 20 banks and thousands of merchants as its customers, ACI Worldwide processes more than $14 trillion in payments and securities transactions every day. That intense volume of real-time transactions comes with many technical requirements and associated costs.

While ACI’s legacy databases could technically support those requirements, it did so through a combination of add-ons that further increased technical complexity and cost.

In response, ACI Worldwide embarked on a multiyear modernization effort, part of which involved a reevaluation of its database investments. The goal of this was threefold:

1. **Identify a strong technical partner responsive to ACI’s evolving requirements.**
2. **Eliminate the architectural compromises often dictated by proprietary databases, without sacrificing functionality needed by ACI’s real-time solutions.**
3. **Reduce and simplify database licensing costs.**

Harnessing the full power of PostgreSQL with EDB

Since the new database would become a critical component of ACI's entire solutions portfolio, Bloch's team conducted an extensive five-month evaluation of multiple relational database options, both open source and proprietary, to ensure that the company selected the best partner for its long-term needs.

After eliminating databases that couldn't meet ACI's exacting standards, the team evaluated the remaining options based on each company's suitability for long-term partnership: responsiveness, resilience in architecture, willingness to collaborate, and flexibility in both architecture and organization.

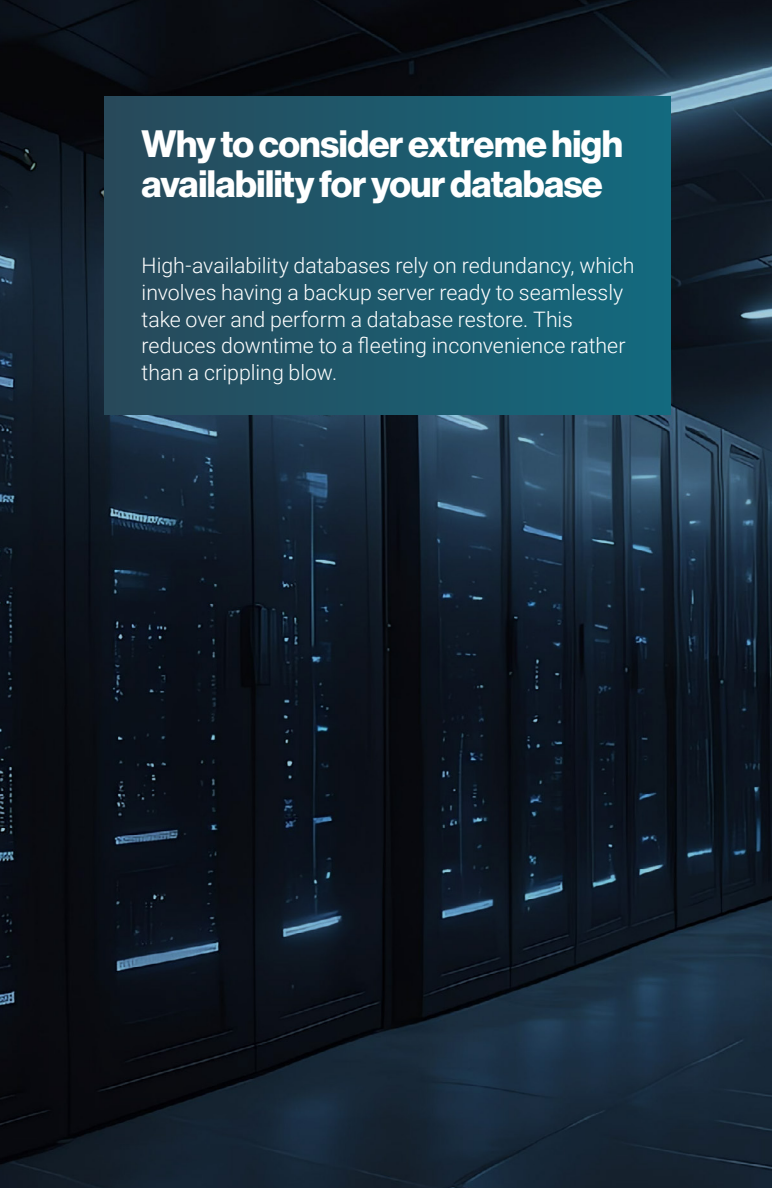
"In today's technological and business environment, you never know what can happen to a business. Open source technology provides us with more options and some insurance against uncertainties," says ACI's senior vice president of Software Engineering Jack Bloch.

From implementation to innovation

Since selecting EDB Postgres Distributed as its solution, ACI has been pleased with the developing partnership and the way that EDB has worked closely to refine and evolve the offering to meet ACI's needs. From installation and collaborative development to performance and ease of use, ACI's ongoing experience with EDB Postgres Distributed has continued to validate the decision.

As Bloch puts it, "We're finally at the point where application architecture and deployment architecture are the same thing."

Today, ACI's core platform, which supports much of its product line, has already been migrated to EDB Postgres Distributed, as have a number of its individual applications, all with satisfactory results.



Why to consider extreme high availability for your database

High-availability databases rely on redundancy, which involves having a backup server ready to seamlessly take over and perform a database restore. This reduces downtime to a fleeting inconvenience rather than a crippling blow.

How do you calculate or measure high availability?

Measuring high availability is usually done by defining and committing to a certain uptime that is part of your availability service level agreement (SLA), which dictates the three-nines, four-nines, or five-nines availability percentage corresponding to the amount of time a system would be unavailable.

Availability	Downtime			
	Per Year	Per Month	Per Week	Per Day
99.9% (three nines)	8.76 hours	43.28 mins	10.48 mins	1.26 mins
99.99% (four nines)	52.60 mins	4.38 mins	1.01 mins	8.64 secs
99.999% (five nines)	5.26 mins	26.30 secs	6.05 secs	864 millisecs

The challenges of physical streaming replication–based high availability

To achieve high availability, Postgres users commonly rely on physical streaming replication to ensure redundancy. But certain activities can compromise high availability and exceed the allowable downtime defined by your service level agreement, such as:

- **Database maintenance operations**
- **Patching the system**
- **Major version upgrades**
- **Increasing resources (CPU/memory/disk space)**
- **Unplanned outages**
- **Configuration and parameter changes that require a restart**

These challenges can significantly impact business operations, leading to service disruptions and potential revenue loss. By equipping PostgreSQL with enterprise-grade availability features, organizations can maintain availability during routine maintenance and unexpected events.

Defining your high-availability requirements

To get started, determine which high-availability architecture is right for your business by asking the following questions:

Do you need a system that allows your business to continue functioning only during a single zone or complete region failure?

Do your customers interact directly with your system?

What is your RPO (recovery point objective)? Can you afford to lose data due to a failover? What is the maximum amount of data loss that can be tolerated?

What is your RTO (recovery time objective)? High-availability options vary depending on the maximum time allowed to restore a system to operational status following an outage.

Answering these questions can help create a clear picture of your organization's specific availability requirements and constraints. This understanding is essential for selecting a high-availability solution that balances your business needs with technical and resource considerations.

EDB Postgres AI

BENEFITS

Unlock high availability with EDB Postgres Distributed

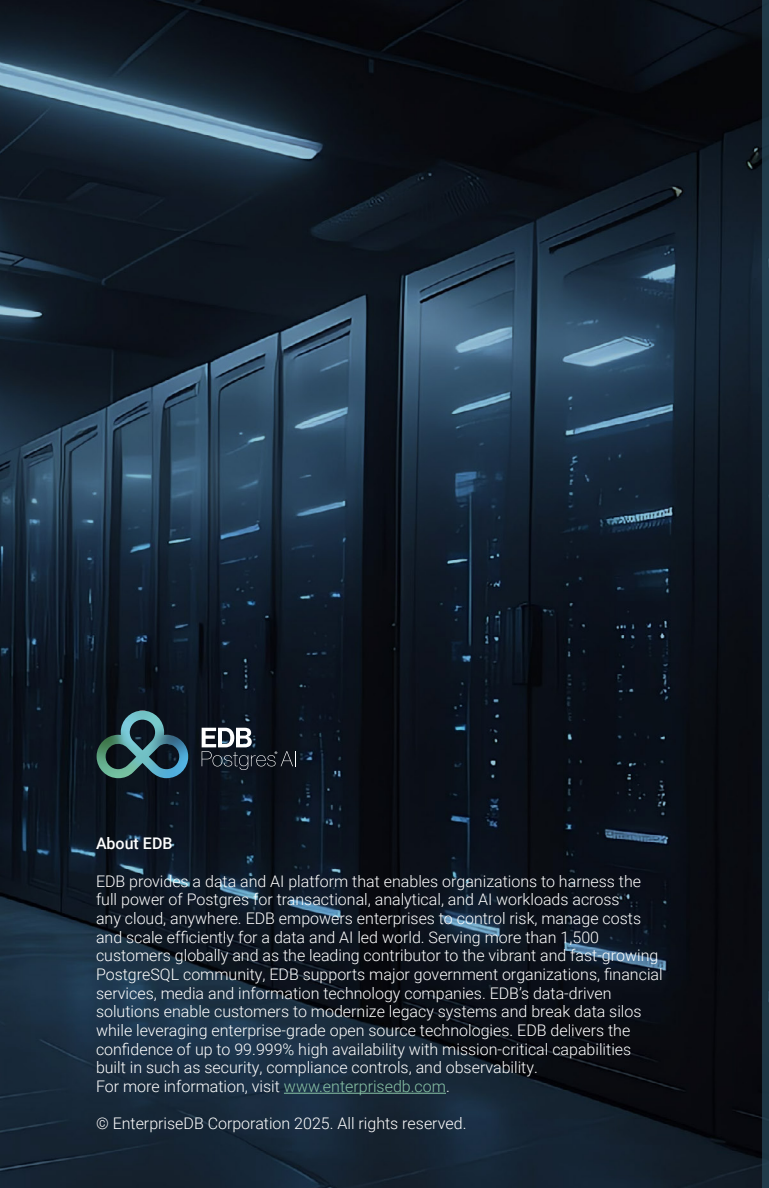
To overcome the limitations of PostgreSQL's physical streaming replication, EDB developed a high-availability solution to take PostgreSQL further.

With EDB Postgres Distributed, organizations can deploy multi-region Postgres clusters with up to 99.999% uptime and five-times data replication performance versus native Postgres logical replication. This enables organizations to support the most demanding applications and process thousands of transactions per second. All while ensuring that data is consistent, timely, and complete for your global users.

EDB Postgres Distributed promotes extreme high availability for your database through:

- **Unplanned outages protection:** Active/active cluster architecture, conflict resolution via Raft-based consensus, and data loss protection ensure that apps and data are available where and when they're needed. Now you can achieve high-resilience architectures with automated failover across sites and regions and avoid application impact even during maintenance windows and version upgrades.
- **Automatic failover/switchover:** Unlike tools such as repmgr and Patroni, which use physical streaming replication, EDB Postgres Distributed uses a consensus layer for automatic failover/switchover, enabling faster and more reliable recovery.
- **High-availability distributed clusters in the cloud:** Running EDB Postgres Distributed on EDB Postgres on public cloud infrastructure supports high-availability active/active geo-distributed clusters. Leverage EDB Postgres Distributed to build robust, globally distributed applications that process thousands of transactions per second, with up to 99.999% availability and five-times throughput support versus native logical replication.
- **Simplified regulatory compliance:** EDB Postgres Distributed allows you to implement controls in multi-region clusters to replicate data selectively where necessary, easing compliance with regulations including SOC2, GDPR, and PCI DSS, and helping to meet regional data sovereignty requirements.
- **Hybrid, multi-cloud flexibility:** EDB Postgres Distributed is available for PostgreSQL, EDB Postgres Advanced Server, and EDB Postgres Extended for self-managed databases and Kubernetes environments.

Ensuring continuous database operations and data integrity requires going beyond basic PostgreSQL functionality and enabling features including automatic failover, data replication across multiple nodes, and geographically dispersed data storage. Which is exactly what EDB Postgres Distributed is designed for.



EDB
Postgres AI

About EDB

EDB provides a data and AI platform that enables organizations to harness the full power of Postgres for transactional, analytical, and AI workloads across any cloud, anywhere. EDB empowers enterprises to control risk, manage costs and scale efficiently for a data and AI led world. Serving more than 1,500 customers globally and as the leading contributor to the vibrant and fast-growing PostgreSQL community, EDB supports major government organizations, financial services, media and information technology companies. EDB's data-driven solutions enable customers to modernize legacy systems and break data silos while leveraging enterprise-grade open source technologies. EDB delivers the confidence of up to 99.999% high availability with mission-critical capabilities built in such as security, compliance controls, and observability.
For more information, visit www.enterprisedb.com.

HARNESS THE POWER **OF POSTGRES HIGH AVAILABILITY**

By partnering with EDB, enterprises across industries and around the world have capitalized on the full potential of Postgres high availability. ACI Worldwide, ClickUp, and telegra are only a few of the companies that have seized on the power of highly available Postgres for their data-intensive workloads and growing global users.

Want to join the innovators and experience the power of extreme high availability?

Contact EDB today.