KreditBee Scaled to 20K TPS and Saved $350K in Projected Infrastructure ARR

Overview

As a high-volume digital lending platform, KreditBee faced rising database latency, single-point-of-failure risks, and escalating cloud infrastructure costs. Mydbops consultants deployed on-site to perform schema optimization, implement partitioning, upgrade to PostgreSQL 12, and configure active-active replication. This collaboration resolved database bottlenecks, eliminated single points of failure, and reduced the platform's long-term infrastructure ARR.

20K
TPS
Increased database handling capacity.

5X
Perf Improvement
Enhanced query response times and overall system throughput.

Zero
Service Downtime
Executed database upgrades and schema optimizations.

$350K
Projected ARR Savings
Optimized database resource utilization on Amazon EC2.

PostgreSQL | Consulting Services

About KreditBee

Based in Bengaluru, KreditBee is an instant personal loan platform and digital credit provider operating through a registered NBFC arm to serve young professionals across India. Now valued as a $1.5 billion unicorn, the platform manages over ₹15,000 Crore in Assets Under Management (AUM) and facilitates ₹30,000 Crore in annual loan disbursements. With more than 230 million app downloads and 18 million unique loan customers, the platform processes approximately 70,000 daily loan requests.

Deployment Type	Database Stack / Services Used	Objective / Outcome
Cloud-Based Deployment	PostgreSQL (Upgraded from 9.5 to 12) & BDR	$350K Projected ARR Savings

Business Challenges

Overview

As KreditBee scaled its loan disbursals and active user base, the underlying database faced several critical operational challenges:

- **Database Scalability Constraints:** Rapidly accumulating transaction records put severe pressure on primary database servers, threatening to impact application performance.
- **Rising Infrastructure Expenses:** Expanding database resources to handle growth led to high cloud infrastructure costs, impacting the efficiency of their Annual Recurring Revenue (ARR) allocations.
- **Single Point of Failure (SPOF) Risk:** The absence of a stable high-availability structure posed a risk of downtime, which could halt instant loan approvals and damage consumer trust.
- **Query Response Time Latency:** Slower query response times threatened the real-time processing requirements of loan originations, risk assessments, and collections.
- **Continuous Operations Requirement:** The database needed round-the-clock (24/7/365) coverage and monitoring to sustain continuous business operations without disruption.

Goals

- Enable the platform to comfortably support peak concurrent transactions.
- Mitigate the risk of unexpected service interruptions by establishing a high-availability database cluster.
- Control and optimize overall database infrastructure ARR.
- Improve database responsiveness to maintain a fast, friction-free user experience.
- Implement data retention and archiving policies that align with regulatory compliance guidelines for financial platforms.

DATABASE ARCHITECTURE TRANSFORMATION

Initial Setup (PostgreSQL 9.5)
- ✕ Single Point of Failure (SPOF) risks
- ✕ Increasing query latency during spikes
- ✕ Escalating cloud computing costs
- ✕ Unpartitioned transaction tables

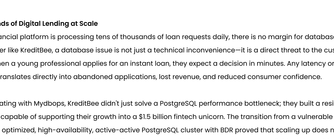
Optimized Setup (PostgreSQL 12) — HA ACTIVE
- ✓ Active-Active Multi-Master (BDR)
- ✓ Sub-second query performance
- ✓ Cost-optimized resource usage
- ✓ Automated query-pattern partitioning

Solution Provided by Mydbops

Mydbops worked closely with the KreditBee team, deploying database consultants to their headquarters to execute a series of targeted architecture and configuration improvements:

- **Schema and Data Type Optimization:**
  The team carried out schema-level adjustments, choosing optimal data types to minimize storage footprints, reduce memory consumption, and enhance query execution times.
- **Query Partitioning:**
  Database partitioning was designed and implemented based on specific query patterns, resolving scalability bottlenecks and creating a path for data archiving.
- **Zero-Downtime Database Upgrade:**
  The team successfully upgraded the database environment from PostgreSQL 9.5 to PostgreSQL 12. This migration was executed entirely during live operations with zero service downtime.
- **High-Availability Clustering (BDR):**
  Bi-Directional Replication (BDR) was configured to establish an active-active high-availability solution, eliminating single points of failure (SPOF) and assuring business continuity.
- **System Configuration and Tuning:**
  PostgreSQL parameters were adjusted to handle KreditBee's rapidly expanding transactional workload, optimizing resource utilization on Amazon EC2 instances.

Active-Active Bi-Directional Replication (BDR)



Results & Impact

Key Outcomes

✅ **Enhanced Peak Transaction Handling:**
The platform achieved a capacity of 20,000 transactions per second (TPS), allowing it to handle massive spikes in loan applications without any system degradation.

Transaction Load Performance Curve
Continuous handling capacity scaled from the baseline load up to 20,000 transactions per second (TPS).

✅ **Business Continuity and Zero Disturbance:**
System upgrades and regular database changes are performed during active hours with zero disruption, preserving customer trust and transactions during peak lending hours.

✅ **Optimized Cloud Spend ARR:**
Infrastructure adjustments lowered cloud operational costs on Amazon EC2, translating directly into an estimated $350,000 savings in projected infrastructure ARR.

Annual Database Infrastructure ARR Spend

Initial Infrastructure Configuration (Pg 9.5 Setup)	100% Cloud Spend
Mydbops Optimized Configuration (Pg 12 Cluster)	70% Cloud Spend (Optimized)
Projected Cloud Infrastructure Spend Savings	$350,000 ARR Saved

✅ **Elimination of SPOF Risks:**
The high-availability BDR configuration secures the system against unplanned server failures, protecting transaction flows and maintaining continuous loan disbursements.

✅ **Compliance-Ready Data Archival:**
The implementation of partitioning and a structured archiving policy allows KreditBee to manage data growth systematically, helping the NBFC adhere to financial compliance standards.

✅ **24/7 Continuous Monitoring:**
Round-the-clock remote DBA support ensures consistent database health, allowing internal teams to focus on core product development.

The Demands of Digital Lending at Scale
When a financial platform is processing tens of thousands of loan requests daily, there is no margin for database delay. For a digital lender like KreditBee, a database issue is not just a technical inconvenience—it is a direct threat to the customer journey. When a young professional applies for an instant loan, they expect a decision in minutes. Any latency or unplanned downtime translates directly into abandoned applications, lost revenue, and reduced consumer confidence.

By collaborating with Mydbops, KreditBee didn't just solve a PostgreSQL performance bottleneck; they built a resilient data foundation capable of supporting their growth into a $1.5 billion fintech unicorn. The transition from a vulnerable database setup to an optimized, high-availability, active-active PostgreSQL cluster with BDR proved that scaling up does not have to mean escalating infrastructure costs. With stabilized systems, optimized query paths, and a reliable data archival policy, KreditBee is now fully prepared to manage its ₹15,000 Crore AUM and expand its secured lending services across India.

Ready to Scale Your Data Layer Without Escalating Costs?
Whether your application is facing performance bottlenecks, rising infrastructure bills, or high-availability risks, Mydbops provides the technical oversight and architectural expertise needed to support your enterprise database systems. Let us help you optimize your databases for scale, reliability, and cost efficiency.

Talk to Our Database Experts Today →