

**Ecosmob helps Phone.com
upgrade & modernize its high
performance database system,
on time, on budget, with zero downtime
or business impact**



P r o j e c t ———
Case-Study ≡

Introduction

Phone.com is the modern, work-from-anywhere solution for today's agile, mobile, and always-on entrepreneurs and growing businesses.

It offers voice, video, text, call management, and collaboration features of an enterprise phone system, along with 24 x 7 support. Customer service is at the heart of the **Phone.com** mission.

Challenge

Phone.com's network supports a very high volume of calls and the company wanted to find an experienced partner who could help them upgrade their open-source infrastructure and tackle some of the growth challenges that the network faced.

One of **Phone.com's** biggest challenges was its workhorse database. **Phone.com** used a very high performance database architecture that was not-native to its other network technologies. Critical to company operations and under constant use, it needed several improvements.

Specifically, the requirements were

Migrate from an older version of the database technology to a newer version.



The database had deprecated older storage engines and implemented new ones. This meant all the data had to be replicated from the older engine to the new engine.



There was to be active 2-way replication between the older & newer versions.



The older version had over 2 TB (500 million documents) of business-critical data, which had to be migrated to the newer version without any data loss or corruption.



During the migration process, there had to be no downtime.



Once replication starts, it should survive any failure and be able to restart from the point it failed.



Solution

Ecosmob started its collaboration with **Phone.com** based on its expertise in open-source telecommunications. Their expertise with Kamailio and other open-source technologies helped **Phone.com** upgrade and scale its network.

To solve compatibility problems, Ecosmob took a simple approach: read (from Oplog), create/update/delete queries executed on the older version of the database, and run them on the newer version and vice versa.

This approach leveraged abstraction provided by the NoSQL database and thereby defeated all challenges raised due to incompatibility between the two versions.

All replication was made resilient to failure, and in case of failure, it started from the point where it failed. To ensure this, Ecosmob used event-driven data streaming architecture with the following components



Debezium Connector

It reads CRUD logs from the source database oplog and pushes them to Kafka.



Kafka

It consumes CRUD logs produced by Debezium and queues them.



Python Consumer Script

It consumes CRUD operation logs from Kafka and executes them to the destination database.

Ecosmob also developed verification scripts that would take samples of data from the older and newer versions of the database and verify them for integrity.

Results

Ecosmob's deep understanding of real-time communications and open-source telephony helped **Phone.com** upgrade its network to the latest version and migrate it to AWS on time, on budget, and with zero impact on business operations and services. Some other benefits included:

2 TB of data migration from the older engine to the newer engine without any data loss or corruption.

500 million critical documents replicated efficiently from the older engine to the newer engine.

Project finished on time, with zero interruption to services for customers.

“Upgrading our high volume network to the latest database technologies without any impact to our customer’s experience was no simple task, but Ecosmob helped us achieve it. ”

Aalok Kaushish,
CPO & COO

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