



# Automated PostgreSQL Migration to GCP for Home-Based Care Platforms

Delivering a dependable and automated migration of Home Health & Hospice PostgreSQL databases to Google Cloud Platform with improved validation and reduced downtime



Google Cloud  
Partner

CASE STUDY

## Client Challenge

A healthcare organization supporting large-scale home-based and hospice care applications required a modern, predictable approach to migrating PostgreSQL databases to Google Cloud Platform (GCP). However, multiple technical and operational constraints slowed progress.

Limitations in an existing real-time replication and streaming tool—including datatype and DDL support gaps—resulted in inconsistent replication behavior. Unsupported PostgreSQL datatypes (such as tsvector and bit) further delayed the migration of critical databases. Frequent schema change failures increased manual effort and extended environment readiness timelines.

Given the size and complexity of the databases, teams relied on extensive manual validation, increasing risk and reducing confidence in data accuracy. The absence of standardized migration pipelines led to inconsistent outcomes, making environment replication slow and unpredictable. With clinical and administrative workflows dependent on continuous data availability, the organization required a robust, automated solution that minimized downtime while ensuring accuracy and scalability.



## CitiusTech Solution

CitiusTech implemented a dependable, automated PostgreSQL migration and replication framework that accelerated the transition to GCP while improving data integrity and operational consistency.

Automated, scalable GCP pipelines were introduced to bypass replication tool limitations and enable fast, repeatable environment replication across teams. Standardized migration playbooks reduced manual intervention and operational overhead, streamlining readiness for both clinical and administrative systems.

An end-to-end validation layer with comprehensive table-level and row-level checks was implemented to ensure data accuracy and build trust among clinicians and caregivers. Proactive replication monitoring reduced downtime risk and preserved continuity of care workflows.

A logical replication fallback mechanism addressed unsupported datatypes, enabling lossless migrations and improving interoperability and analytics readiness. The resulting provisioning framework was designed to scale with organizational growth and support rapid onboarding of future environments.

## Key Highlights of the Solution

- Automated, scalable GCP pipelines enabled consistent environment replication
- Standardized migration playbooks reduced manual effort and improved predictability
- End-to-end validation ensured reliable table- and row-level data integrity
- Proactive replication monitoring minimized downtime for critical workflows
- Logical replication fallback enabled lossless migration of unsupported datatypes
- Future-ready provisioning framework supported scale and faster onboarding

## Value Delivered

### Business Value:

- Supported dependable operation of critical clinical and administrative systems
- Enabled faster, more reliable access to patient data for care teams
- Established a scalable cloud foundation for growth and advanced analytics

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### Technical Value:

- Successfully migrated 20 PostgreSQL databases across Development, QA, and Staging
- Reduced downtime from four hours to one hour per database
- Achieved 100% automated validation coverage across all tables



## About CitiusTech

CitiusTech is a global technology services, consulting, and business solutions enterprise 100% focused on the healthcare and life sciences industry. We enable 140+ enterprises to build a human-first ecosystem that is efficient, effective, and equitable. Leveraging deep domain expertise and next-generation technologies including AI, Cloud, Data, and Intelligent Automation, we assist our clients to realize their vision, accelerate transformation, and achieve business outcomes. With 7,700+ healthcare technology professionals worldwide, CitiusTech powers digital innovation, business transformation, and industry-wide convergence through next-generation technologies, solutions, and products. Follow CitiusTech on [X](#) or [LinkedIn](#).

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