CIO BRIEF

Agentic Migrations: Reinventing enterprise modernization through autonomous AI

Modernization has become a strategic imperative, yet most enterprises remain constrained by the realities of legacy migration: high cost, long timelines, and operational risk. Traditional approaches depend heavily on manual engineering effort, fragmented tooling, and scarce expertise, making transformation difficult to scale and even harder to predict.

EDB Postgres® AI (EDB PG AI) takes a fundamentally different approach to migrations. By encoding decades of Oracle-to-Postgres migration expertise directly into the platform, EDB PG AI automates the most resource-intensive migration steps inside an organization's own security boundary, without external tools or third-party dependencies. The result is not just a faster migration but a repeatable, sovereign modernization engine aligned to the pace of digital business.

Reframing the migration challenge

At its core, the challenge of Oracle migration is not tooling. It is complexity at scale. Legacy environments store decades of business data and logic across databases, applications, stored procedures, and integrations. Extracting, translating, and validating this information has historically required deep human expertise and iterative cycles of rework.

This is where most migrations stall. Costs escalate as PL/SQL incompatibilities accumulate in the last mile, timelines extend as application-layer rewrites surface late, and risk increases at scale without a systematic method to assess migration complexity. For CIOs, this creates a structural bottleneck that delays cost reduction, data platform consolidation, and AI readiness.

The agentic approach

EDB PG AI addresses this challenge by encoding migration expertise into the EDB PG AI platform itself. This enables agent automation of the end-to-end migration workflow, from source assessment to destination cluster creation, schema migration, code remediation, data movement, and cutover.

Business impact

From a CIO perspective, the shift is material. Migration timelines compress because the most time-consuming steps are automated. This allows enterprises to capture legacy cost savings faster and reinvest them in innovation rather than infrastructure maintenance. Risk is fundamentally restructured, moving from late-stage discovery of defects to early detection and remediation.

More important, EDB PG AI's agentic migrations capability enables AI-readiness. Organizations can execute multiple concurrent migrations at once and at enterprise scale, transforming modernization from a series of one-off projects into a sustained capability. The downstream effect is strategic: accelerated platform standardization and improved readiness for AI-driven initiatives that need a modern data foundation.

Technical perspective

EDB PG AI runs parallel bulk assessments across all Oracle databases, automatically evaluating schema compatibility and migration complexity. This eliminates the months of manual planning that precede traditional migration programs and enables organizations to build momentum by targeting early wins first. Automated schema and data conversion reduces application rewrites by up to 95%, while AI Copilot automatically detects PL/SQL incompatibilities, surfaces remediation suggestions, and resolves code issues 5x faster than manual troubleshooting.

EDB Data Migration Service performs an initial data snapshot, then replicates source database row changes to the migration destination using change data capture and event streaming. Legacy systems remain fully operational throughout the migration process and teams validate the new environment and cut over on their own schedule. With full API support and MCP server integration, AI agents can automate migration tasks end to end, reducing reliance on human intervention at every stage. All of these capabilities are sovereign, eliminating the risk of compliance exposure created by third-party migration tools.

Strategic implications

EDB PG AI shifts modernization from a structural constraint to a strategic lever. Instead of asking, “How long will this migration take?” organizations can begin to ask, “How quickly can we modernize?” This distinction reframes migration from a cost drainer to an enabler of innovation, directly supporting initiatives in cloud, data, and AI.

For organizations with large legacy estates, this approach also introduces standardization. Enterprises can orchestrate the entire migration lifecycle inside their controlled environment, from source assessment to production-ready Postgres, without external tools, third-party dependencies, or data leaving the security boundary. The downstream effect is more strategic and faster cost reduction and improved readiness for AI-driven initiatives.

Business and technical comparison

Dimension	Traditional migrations	EDB PG AI
Execution model	Human led, project based	AI assisted, agent led
Speed and throughput	Sequential, resource constrained	Parallelized, scalable across workloads
Cost structure	High licensing, labor, consulting, and rewrite costs	Reduced labor, higher automation efficiency, fewer rewrites
Risk profile	Late-stage validation, complex rewrites, incompatibility	Continuous remediation suggestions; AI-assisted, automated detection
Scalability	Limited by team size and expertise, manual	Scales with compute and agent orchestration, flexible deployments
Sovereignty	Third-party tools, data exposure	Runs in your controlled environment, migrate on premises
Optimization	Post-migration tuning	Built-in features to support ongoing optimization and compatibility
Governance and control	Manual oversight, fragmented visibility	Centralized orchestration with full auditability
Strategic outcome	One-time modernization events	Continuous, repeatable

*Competitive comparisons are based on publicly available information and are subject to change as vendor offerings evolve and new information is made available. All product names, trademarks, and registered trademarks are the property of their respective owners.

The EDB PG AI agentic migrations capability is more than a tool set. It provides a new operating model for enterprise modernization.

EDB Postgres AI: The sovereign data and AI platform for the agentic enterprise

EDB PG AI brings together a unified data layer, governance, sovereign control and orchestration, and an agent runtime environment, giving enterprises a trusted foundation for AI on infrastructure they own and control. The platform unifies transactional, analytical, and AI workloads in a single Postgres-based architecture—eliminating ETL, data movement, and operational fragmentation. And you choose where and how to deploy: on-premises, cloud, managed, or certified appliance.

The outcome: production-ready sovereign AI in days or weeks, not months.

EDB POSTGRES AI

EDB Postgres® AI (EDB PG AI) is the sovereign data and AI platform for the agentic enterprise. Built on Postgres, the world's leading open source database, EDB PG AI unifies transactional, analytical, and AI workloads in a single governed architecture, on-premises and across clouds. To learn more, visit www.enterprisedb.com.