CIO BUSINESS SOLUTIONS BRIEF

Executive Perspective: The Platform Decision That Defines the Next Decade

In 780 days, 95% of us want to be there—but only 13% are doing it properly now

Enterprises are entering the agentic AI era, in which software agents interact with live operational systems in real time and increasingly act autonomously to drive business outcomes.

This shift represents more than a technology upgrade. It is a structural transformation in how organizations operate, make decisions, and create value. Yet most enterprises are attempting to build this future on fragmented foundations composed of disconnected databases, analytics platforms, vector stores, and external AI services. The consequence is mounting complexity, rising costs, delayed AI initiatives, and growing governance risk.

AI is data hungry; agentic AI is even more so

Agentic AI drives significantly higher data usage because each task is not a single query but a sequence of interactions—combining multiple database queries, API calls, and iterative reasoning steps that can expand one request into dozens of data operations. It also maintains persistent memory across sessions, continuously reading and writing short-term context, long-term knowledge, and vector-based retrieval data, which increases storage, access frequency, and system load.

At the same time, agentic systems operate in real time across multiple data sources—structured, unstructured, and external—shifting from periodic processing to continuous, low-latency data access and substantially increasing overall throughput and complexity.

Access, control governance, and latency all become defining variables in the ability of agents to thrive. IDC estimates that there will be more than 1 billion agents operating 217 billion instructions per day within a few years.

CIOs need to build AI intelligence at scale to thrive

Only 13% of organizations globally are doing this the right way now, and their primary foundation is a basic decision. According to EDB research of 2,050 executives across 13 countries, sovereignty over all of these key components (agility, access, control, and latency) drives success.

EDB Postgres® AI offers a fundamentally different approach. It is a unified, sovereign data and AI platform that consolidates transactional, analytical, and AI workloads into a single Postgres-based foundation. For CIOs, this is not a tooling decision but an architectural one that will define the enterprise's ability to compete over the next decade.

Fragmentation blocks the advantages of agentic operations

The emergence of agentic AI introduces new infrastructure requirements that legacy and cloud-first architectures were not designed to support.

- **Systems must now enable simultaneous access to multiple data types**, operate with low latency across distributed environments, enforce continuous governance and auditability, and integrate transactional and analytical workloads seamlessly. Traditional architectures, built for sequential human-driven interactions, struggle to meet these demands without significant reengineering.
- **Fragmentation is at the core of the problem.** Multiple systems require integration, synchronization, and governance overlays, each adding cost and operational burden. Engineering teams spend increasing amounts of time connecting systems rather than building applications that generate business value. As a result, AI initiatives stall before reaching production, and the anticipated benefits of digital transformation fail to materialize.

EDB Postgres AI addresses this structural issue by collapsing the fragmented data stack into a unified platform, providing a foundation that is inherently aligned with the requirements of the agentic era.

How you respond to three forces and one key decision define the chances for success

The urgency for this transition is driven by a convergence of market forces:

- **First, the infrastructure gap for AI** is becoming increasingly apparent, with more than 40% of agentic AI projects projected to fail by 2027 due to inadequate data foundations.
- **Second, sovereignty has emerged** as both a regulatory requirement and a competitive differentiator, as organizations seek to retain control over their data and AI capabilities.
- **Third, fragmented architectures** are proving to be a significant barrier to innovation, increasing integration costs and delaying time to value.
- **Finally, shifts in licensing models** from legacy vendors are forcing enterprises into a once-in-a-decade modernization cycle, creating a unique window of opportunity to rethink foundational architecture decisions.

The three principles that drive platform success

At its core, EDB Postgres AI unifies transactional databases, analytical systems, vector processing, and governance frameworks within a single Postgres environment. This consolidation eliminates the need for specialized databases and external AI infrastructure, replacing them with a consistent operational model. By embedding AI capabilities directly within the database layer, the platform enables applications and agents to operate on live data without the need for data movement or duplication.

The architectural approach is built on several key principles:

- **Principle 1:** The platform supports an omni-data model, allowing relational, document, graph, vector, and time-series data to coexist within a single system. AI is integrated natively, ensuring that models operate directly on operational data in real time.
- **Principle 2:** Deployment flexibility allows organizations to run the platform on premises, in the cloud, in hybrid configurations, or within fully air-gapped environments.
- **Principle 3:** Governance and security are enforced at the database layer, ensuring that controls cannot be bypassed by applications or agents.

This approach fundamentally changes the economics and operational dynamics of enterprise data infrastructure by reducing complexity while preserving control.

A single platform for your AI, your data, your agents, and your governance needs

EDB Postgres AI delivers value across four primary dimensions.

1. It is **sovereign by design**, enabling organizations to maintain full control over data location, governance, and infrastructure without relying on external cloud services.
2. It provides platform efficiency by replacing multiple specialized systems with a **single unified platform**, reducing licensing costs, integration complexity, and operational overhead.
3. It offers an **AI-ready foundation** by embedding intelligence directly within the database, enabling real-time decision-making and eliminating the need for data movement.
4. It also delivers **enterprise-grade** reliability with high availability, rapid recovery, and zero-downtime upgrades, making it suitable for mission-critical environments where failure is not an option.

Comparative platform positioning

When compared to legacy databases, cloud-managed services, and specialized analytics platforms, EDB Postgres AI occupies a distinct architectural position. Legacy systems such as Oracle primarily focus on transactional workloads and require additional systems to support analytics and AI, leading to increased complexity and cost. Cloud-managed databases such as AWS Aurora simplify operations but require data to reside within the cloud, introducing sovereignty concerns and variable cost structures. Modern data warehouses such as Snowflake excel in analytics but rely on external systems for transactional processing and AI integration.

Capability	EDB Postgres AI	Oracle (Legacy DB)	AWS Aurora/RD	Snowflake/Modern Warehouse
Deployment model	On-prem, cloud, hybrid, air-gapped	Primarily on-prem/ cloud hybrid	Cloud-only	Cloud-only
Data sovereignty	Full control, no required data movement	Limited, environment-dependent	Requires cloud residency	Requires cloud residency
Workload coverage	Unified (transactional, analytical, AI, vector)	Primarily transactional	Primarily transactional	Primarily analytical
AI integration	Native, in database	External or add-on	External services required	External integrations required
Operational complexity	Low (single platform)	High (multiple systems)	Medium (managed but fragmented)	Medium–high (separate systems)
Cost model	Predictable, lower TCO	High licensing costs	Variable, consumption based	Variable, consumption based
Vendor lock-in	Open source (Postgres based)	High	High	High
Migration path	Built-in tooling, reduced rewrite	N/A	Limited tooling	N/A
Governance	Enforced at database layer	Add-on tooling	Service-level controls	External governance layers

In contrast, EDB Postgres AI unifies these capabilities within a single platform that can be deployed anywhere, providing both flexibility and control. Its open source foundation reduces vendor lock-in, while its integrated governance model ensures consistent security and compliance across all workloads. This architectural consolidation represents a fundamental shift from managing multiple systems to operating a single control plane for all data and AI workloads.

Business impact

The impact of this platform approach is both operational and financial. Organizations adopting EDB Postgres AI can achieve significant reductions in total cost of ownership compared to both cloud-based AI stacks and legacy systems. Complexity reductions translate into faster development cycles and quicker time to production, while performance improvements enable more consistent handling of high-concurrency workloads. These outcomes directly support CIO priorities, including cost optimization, operational efficiency, and acceleration of digital initiatives.

Beyond cost savings, the platform enables a shift in how organizations deliver value. By eliminating integration bottlenecks and enabling real-time AI capabilities, enterprises can move from experimentation to production more rapidly, unlocking new revenue streams and competitive advantages.

Every CIO needs to see the opportunity to create the enterprise's competitive moat

The enterprise data and AI landscape is undergoing a structural reset, and the decision facing CIOs is no longer about selecting individual technologies but about defining the architectural foundation—defining a "competitive moat" to keep their data sovereign—for the future. EDB Postgres AI represents a shift toward consolidation, ownership, and integration, offering a unified platform that aligns with the demands of the agentic era.

Organizations that adopt this approach early will be better positioned to accelerate AI adoption, reduce long-term costs, and maintain control over critical data assets. Those that delay risk being constrained by fragmented architectures that limit innovation and increase operational burden.

For CIOs, the adoption of a unified platform approach has several strategic implications. Modernization can occur without large-scale disruption, as the platform supports incremental adoption alongside existing systems. This reduces risk and allows organizations to transition at their own pace. Developer productivity is enhanced through alignment with modern, Kubernetes-native tooling, enabling self-service capabilities and reducing reliance on specialized expertise.

Cost structures become more predictable as organizations move away from consumption-based pricing models and fragmented licensing agreements. At the same time, strategic independence is strengthened when organizations retain control over their data and infrastructure, allowing IT strategy to be driven by business objectives rather than vendor constraints.

Considerations and risks

As with any platform transition, CIOs must evaluate certain considerations. The availability of platform-level case studies demonstrating multi-workload outcomes is currently limited, and some performance and ROI metrics require further validation for external use. Additionally, not all platform capabilities may be fully mature at the time of adoption. These factors should be addressed through detailed vendor engagement and proof-of-concept initiatives.

Final perspective

The transition to agentic AI is inevitable, but the path organizations take will determine their ability to compete. CIOs must decide whether to continue evolving existing fragmented systems or to adopt a unified platform designed for the next generation of enterprise computing.

EDB Postgres AI provides a foundation for the latter approach, enabling organizations to not only modernize their infrastructure but to redefine their operating model for the decade ahead.

EDB POSTGRES AI

EDB Postgres AI is the first open, enterprise-grade sovereign data and AI platform, with a secure, compliant, and fully scalable environment, on premises and across clouds. Supported by a global partner network, EDB Postgres AI unifies transactional, analytical, and AI workloads, enabling organizations to operationalize their data and LLMs where, when, and how they need them. For more information, visit enterprisedb.com