CTO BRIEF

EDB Postgres® AI Sovereign Data and AI Factory

For CTOs operating in regulated industries or geographic locations with data residency mandates, sovereignty is no longer an optional consideration. It is an architectural requirement that directly influences platform decisions.

Regulatory frameworks and policies impose constraints on how data is stored, processed, accessed, and audited. These constraints extend further into third-party access control, portability, and risk management.

At the same time, organizations are under pressure to deliver on AI capabilities, which increasingly include agentic workloads that operate autonomously on sensitive data. Many conventional architectures, such as public cloud-based AI platforms, fail to meet the compliance thresholds that organizations hold.

Sovereignty requirements should not be a roadblock to innovation or streamlined operations. Companies that prioritize becoming their own data and AI platform achieve 5x greater ROI than industry peers and 2x more agentic AI deployments in production, using sovereignty as their blueprint for success.

EDB Postgres AI (EDB PG AI) Sovereign Data and AI Factory delivers sovereign data and agentic capabilities inside an organization's environment. It is a turnkey, all-in-one system for a reliable, secure, and flexible foundation to accelerate core operational and rapid AI deployment. Organizations go from delivery to live production in just 90 days or less with a solution that reduces integration complexity, operational risk, and time to value for both database workloads and AI/agentic applications.

The core architectural problem

Sovereignty requirements typically introduce three nonnegotiable constraints:

1. The **control plane must remain inside the enterprise** or local geographic jurisdiction. Externalized control planes introduce governance ambiguity and potential exposure to noncompliant frameworks.
2. **Data processing**, including AI inference and agentic workload execution, **must occur within controlled environments**. This eliminates architectures that rely on external APIs, cloud-hosted model services, or off-premises agent orchestration for sensitive workloads.
3. **Systems must be auditable and portable.** Organizations must demonstrate not only compliance but also the ability to migrate workloads without vendor-imposed constraints.

Current architecture solutions rely on a mix of public cloud services and internally managed infrastructure. While cloud platforms provide rapid access to AI tooling, they introduce sovereignty risks to data access, jurisdictional control, and auditability. Internal DIY infrastructure, which involves assembling a sovereign infrastructure stack, lacks the integration required to support modern AI workloads, including agentic systems, at scale. It also demands specialized skills that may not be readily available.

AI and agentic initiatives are constrained by these limitations, with projects delayed or scoped down due to compliance concerns and infrastructure readiness.

EDB PG AI Sovereignty Data and AI Factory

EDB PG AI Sovereign Data and AI Factory is designed to meet sovereignty requirements at the architectural level rather than through compensating controls. It is pre-integrated, configured, and installed by EDB with a complete, single-vendor support model to reduce the likelihood of configuration errors that could lead to compliance violations. It supports on-prem deployment, air-gapped environments, and local agent execution with no external service dependencies.

Sovereign AI development at speed

Since Sovereign Data and AI Factory is deployed in a customer's data center, it ensures that both the data plane and control plane remain within the organization's jurisdictional boundary. All data processing, including AI inference and agentic workload execution, is performed locally. Sovereign Data and AI Factory eliminates the need to call external AI services, thereby avoiding data transfer outside the controlled environment and meeting emerging regulatory guidance on AI agents acting on personal and regulated data.

AI development speed is a competitive differentiator. Independent research from McKnight Consulting Group found that teams building GenAI applications on EDB PG AI reach production three times faster than on DIY cloud stacks—compressing time from 28 weeks to 9 weeks—with 67% lower development complexity. Sovereign Data and AI Factory makes this speed advantage available in the sovereign environment from day one.

For CTOs evaluating sovereign AI strategy, this matters architecturally because it collapses what is often framed as a trade-off: Organizations do not have to choose between sovereignty and development velocity. SDAF delivers both simultaneously: full data control and faster time to production for AI applications.

Technical comparison

	EDB PG AI Sovereign Data and AI Factory	Public cloud	DIY platform
Data residency	Guaranteed	Region-based only	Guaranteed
Jurisdictional control	Full	Limited	Full
AI/agentic processing location	Local	Externalized	Local
Deployment time	90 days or less	Immediate	12–18 months
AI development speed	Fast	Fast	Slow
Integration complexity	Low	Low	High
Auditability	Full stack	Limited	Variable
Sovereignty	Guaranteed	Not guaranteed	Variable
Exit strategy	Open	Limited	Open

*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.

Strategic implications

Adopting EDB PG AI and its Sovereign Data and AI Factory enables a shift from reactive compliance to proactive architecture. Instead of adapting systems to meet regulatory requirements, organizations can design platforms that inherently satisfy them, including the emerging requirements around agentic AI auditability and data control.

This has several implications. It reduces compliance overhead by eliminating the need for compensating controls. It accelerates AI and agentic adoption by removing infrastructure and development bottlenecks. It improves resilience by providing a validated, supportable system that can evolve over time. And it closes the execution gap: Organizations with a sovereign foundation are already deploying agentic workforces and delivering measurably better ROI than those without.

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.

Conclusion

For CTOs operating with compliance constraints and data residency mandates, sovereignty is a foundational requirement that shapes every architectural decision. The challenge is to meet this requirement without sacrificing innovation, development velocity, or the ability to deploy agentic AI at scale.

EDB PG AI's Sovereign Data and AI Factory resolves this challenge by delivering a pre-integrated, sovereign platform foundation that supports regulatory compliance, advanced AI workloads, and rapid AI development simultaneously. Sovereign Data and AI Factory enables organizations to move forward with confidence in an increasingly regulated and agentic world.

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.