enclaive

Confidential Databases

Protect sensitive data at rest, in transit, and in use without compromising performance or usability

A company's most valuable asset is information. Yet even highly sensitive customer data and trade secrets are increasingly processed in public cloud environments—where traditional security measures cannot guarantee protection. The result: critical vulnerabilities and potential exposure to criminal attackers, state actors, or even hosting partners. enclaive closes this gap by encrypting your cloud databases across all three dimensions—at rest, in transit, and in use.

Challenges

Cloud databases consolidate distributed data sources, enable faster access, and support collaborative workflows while reducing cost and effort. However, they also introduce several challenges that can quickly turn into serious risks.

Data Security & Privacy

If sensitive data remains unencrypted during processing, it can be exposed to attackers or service providers such as cloud operators.

Compliance

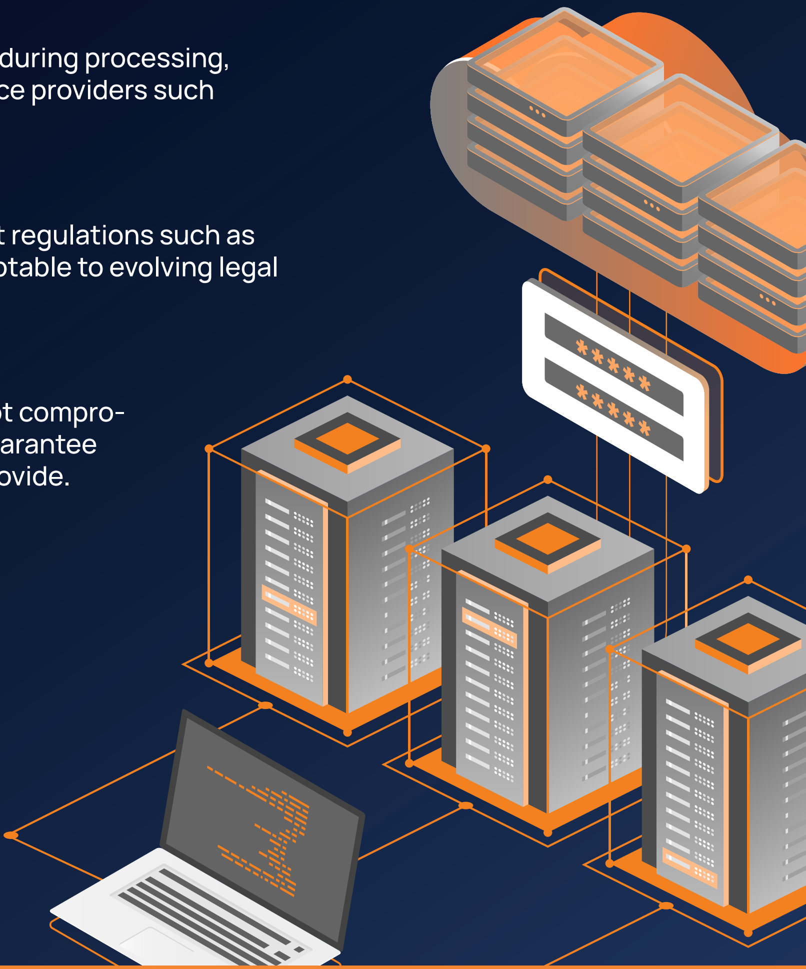
Databases must comply with stringent regulations such as GDPR, DORA, or NIS2—and remain adaptable to evolving legal frameworks.

Data Resilience

Disruptions or system failures must not compromise data availability or integrity—a guarantee conventional systems often cannot provide.

Interoperability

Integrating encrypted databases into existing infrastructures can be complex and may impact performance and usability.



Our Solution

With enclaive's Confidential Databases, you benefit from a new level of cloud data protection. Your databases are fully encrypted within isolated execution environments—either as virtual machines through our Buckypaper solution or as self-healing Kubernetes clusters with Dyneemes. Enjoy state-of-the-art cloud cryptography that effortlessly meets even the strictest security and sovereignty requirements—because with enclaive, security, efficiency, and compliance work seamlessly together.

3D Encryption

Your databases are protected across all three dimensions—at rest, in transit, and for the first time also in use. Sensitive data is never exposed in plaintext.

Trusted Hosting

Even cloud providers cannot access your data. It remains encrypted during maintenance, monitoring, and infrastructure administration—ensuring maximum confidentiality.

Automated Maintenance

Backups, updates, and patches run fully automated in the background, reducing administrative overhead, eliminating human error, and keeping your databases up to date.

Post-Quantum Security

Prepare for the quantum era and prevent increasing "store now, decrypt later" attacks with end-to-end encryption that remains secure even against future quantum-based threats.

High Availability & Fault Tolerance

Our Confidential Databases ensure failover resilience and rapid recovery. Even in the event of hardware failure or system disruption, your databases remain accessible and consistent.

Minimal Performance Overhead for Stable UX

Our encryption adds only about 3% computational load— enabling maximum security without compromising performance or user experience.

Why Choose Confidential Databases

- **Risk Mitigation:** 3D encryption of sensitive datasets ensures continuous protection and effectively prevents data leaks—even in case of a security incident.
- **Simplified Secrets Management:** Complex handling of cryptographic keys and processes is largely automated through integrated key rotation and maintenance.
- **Real-Time Security:** Continuous protection ensures confidentiality even during the dynamic and active querying phases.
- **Fast Deployment:** Confidential Databases are ready to use within minutes —without complex integration projects.
- **Regulatory Compliance:** Privacy laws and industry standards are reliably met, and audit readiness is greatly simplified.
- **Reputation:** Implementing robust, future-proof encryption builds lasting trust and confidence among customers and partners.

Learn more:
enclaive.io/managed-databases-data-in-use-encrypting-databases

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