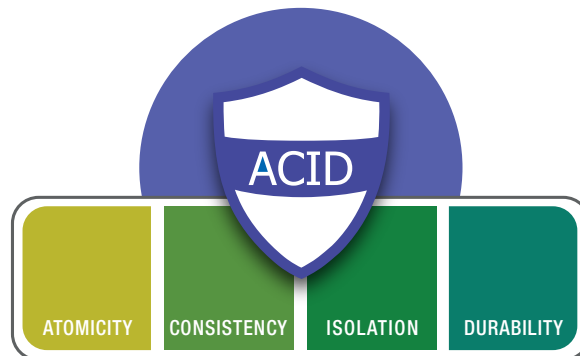


ACID Transactions

If you are running an operational and transactional application, then you need a database with all of the ACID properties (atomicity, consistency, isolation, and durability). If a database is ACID compliant, it means that reads and writes are durably logged to disk, and strongly isolated from other transactions. Without this feature, you run the risk of encountering data corruption, stale reads, and inconsistent data—all of which are unacceptable for enterprise-grade systems.

MarkLogic® is an operational and transactional Enterprise NoSQL database that has had ACID transactions since its first version. MarkLogic's ACID properties also apply to multi-document transactions, multi-statement transactions, and XA transactions (transactions across a cluster). This capability differentiates MarkLogic from all other document databases, providing the unique reliability to run large-scale, operational systems for mission-critical use cases.



Trusted Databases Have ACID Transactions

Don't settle for a BASE-ic database. ACID transactions have been a standard in the relational database world for years, ensuring that organizations can trust their database to not lose data. It is an absolute requirement to have transactional consistency when it comes to mission-critical applications that involve financial data, healthcare data, or sensitive information pertaining to national security. But even for less mission-critical applications, a transactional database will save developers time and frustration from unnecessary data loss.

Global enterprises trust MarkLogic over less mature NoSQL database platforms because it has all enterprise features—ACID transactions, government-grade security, high availability and disaster recovery—that keep data safe and performance predictable.



Under the Hood With MVCC

MarkLogic satisfies all of the ACID properties by using MVCC (multi-version concurrency control). In an MVCC system, changes are tracked with a timestamp number on each document. The database uses these timestamps to ensure that all users see consistent data.

This design has many additional benefits beyond just ACID transactions: it ensures very high throughput, limits database locking, avoids data conflicts, and makes it faster and easier to recover from network partitions and failures. And, the consistency provided by ACID transactions also makes it possible to provide other powerful features like High Availability and Disaster Recovery, and Tiered Storage.

Proven Success

Avoiding scheduled downtime is important to ensure a highly available system, which is why MarkLogic is designed so that administrators can keep systems online and operational while performing changes and maintenance:

- **Deutsche Bank** – The bank runs a global trade store on MarkLogic. The system integrates operational trade data from dozens of front-office trading systems, bringing in over 50 million trades per day for post-trade processing
- **U.S. Department of Defense** – A U.S. Combatant Command uses MarkLogic to collect and search over 100 million documents worth of Intelligence, Surveillance, and Reconnaissance (ISR) information
- **The Centers for Medicare & Medicaid Services** – CMS runs HealthCare.gov on MarkLogic, enabling millions of people to sign up for health insurance
- **Aetna** – This large health insurer uses MarkLogic to manage over 140 human resources-related data feeds, consisting primarily of complex, structured data such as payroll data, employee evaluations, promotions, benefits, etc.

About MarkLogic

MarkLogic is the world's best database for integrating data from silos, providing an operational and transactional Enterprise NoSQL database platform that integrates data better, faster, with less cost. Visit www.marklogic.com for more information.

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