

Graph Database

A database that represents and stores data using graph structures for semantic searches using nodes, edges, and properties. A graph database is useful for analyzing data relationships and interconnections; as a result, it is seeing widespread use in social media data mining, and data with dynamic schemas. Graph databases provide benefit over data warehouses for enterprise-wide analytics.



Use Cases

- ◆ Detecting money mules & mule fraud
- ◆ Real-time fraud detection
- ◆ Master data management
- ◆ Criminal investigation
- ◆ Customer 360-degree analysis
- ◆ Network and IT operations
- ◆ Identity and access management
- ◆ Contact tracing
- ◆ Supply chain mapping

Advantages

- ◆ Improves performance
- ◆ Object-oriented thinking
- ◆ Updates data in real-time and support queries simultaneously
- ◆ Makes powerful recursive path query easily accessible
- ◆ Flexible online schema environment
- ◆ Better problem-solving
- ◆ Agile structures
- ◆ Spots outliers
- ◆ Able to work with information skew

Trends

- ◆ The global graph database market was worth around \$1,827.5 million in 2021 and is estimated to grow to about \$5,996.25 million by 2028, with a CAGR of approximately 21.9% over the forecast period
- ◆ By 2025, Gartner expects a 70% growth in data & analytics breakthroughs fueled by graph technology and by 2023, graph technology will play a role in the decision-making process for 30% of businesses globally
- ◆ TigerGraph recently used the graph database benchmarks to scale its database to support 30 terabytes (TB) of graph data, up from 1 TB in 2019 and 5 TB in 2020