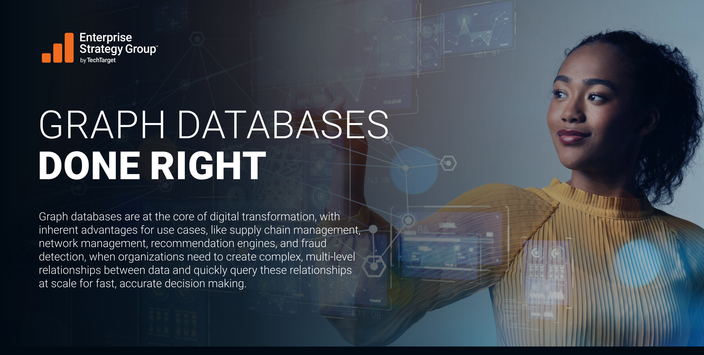
Enterprise Strategy Group
by TechTarget

GRAPH DATABASES **DONE RIGHT**



Graph databases are at the core of digital transformation, with inherent advantages for use cases, like supply chain management, network management, recommendation engines, and fraud detection, when organizations need to create complex, multi-level relationships between data and quickly query these relationships at scale for fast, accurate decision making.

Real-time data insights for decision making are challenged by complex, interconnected data and the need to empower more data users.

Database Administrators are challenged with managing volumes of new data from more data sources (e.g., structured, unstructured, e-commerce, IoT, 5G systems, geospatial, and more) to deliver the right data to a growing number of data users for decision-making purposes. This complexity of interconnected data points has exponentially created new difficulties as organizations have become truly data-driven.

79%
of organizations have seen **an increase in the number of people who need data** for decision-making purposes.

61%
of organizations reported being in the process of, just beginning, or planning **a digital transformation of their IT infrastructure and business operations.**

ONLY 4%
of organizations gain insight from data **within seconds** (i.e., instantaneously).

45%
reported that it takes them **weeks or longer to gain data insights.**

> "Data is more interconnected and richly connected than ever before. **ArangoDB simplifies data and delivers data insights.**"
>
> - **Stephen Catanzano**, Senior Analyst

ArangoDB's "Graph Done Right" approach decreases the time to gain data insights for decision making, creates competitive advantages, and simplifies the management of complex, interconnected data.

ArangoGraph is a graph-first database—but not graph-only. ArangoGraph models the interconnection points of all data, including richly connected data, and then organizes messy or complicated data points according to the relationships. It natively stores graphs into a single database engine for performance at scale. ArangoGraph then extends the usability of the data with advanced search, JSON document functionality, and ML/AI integrations.

ArangoGraph
ArangoGraph Insights Platform is a cloud-based graph data and analytics platform that uncovers insights in data that are difficult or impossible to obtain with traditional SQL, document, or even other graph databases.

Flexible Data Model
With ArangoGraph, data can be stored as key/value pairs, graphs, or documents and accessed with a single declarative query language.

ArangoSearch
ArangoSearch is ArangoDB's built-in search engine for full-text, complex data structures to create indexes, views, collections, and more on rich content.

JSON Documents
The graph capabilities of ArangoGraph are similar to those of a property graph database but add more flexibility in data modeling, as vertices and edges are both full JSON (JavaScript Object Notation) documents.

ArangoGraphML
Traditional machine learning misses connections and relationships between data points; this is where ArangoGraphML shines, making it easier to gain deeper insights from data.

AQL
ArangoDB Query Language (AQL) can retrieve and modify data stored in ArangoDB in a declarative language, providing developers with more productivity and flexibility.

Finding graphs is not a challenge; they are all around us.

Graphs can be as simple as a network of friends or roads or as complex as a global supply chain of hundreds of factories, thousands of ships, and trucks, all tied to eCommerce products delivered to millions of consumers.

SUPPLY CHAIN MANAGEMENT

This decade has seen disruptions to the global supply chain due to pandemics, wars, extreme weather, and labor disruptions. These disruptions have impacted the timely delivery of products worldwide, demonstrating the need for increased supply chain resilience. **ArangoGraph helps organizations to:**

- Model supply chains to identify chokepoints, predict disruptions, and quickly adapt.
- Create a "single source of truth," tracking every shipment by every company on the planet, encompassing 400 million companies and billions of shipments.
- Cross-link data with third-party data sources to create insights to build more robust, predictable, efficient, and ethical supply chains.

FINANCIAL SERVICES COMPLIANCE

Financial services run on data. Whether access to information for trading and decision making or cross-referencing data sources against competitors, fast, accurate data is critical for success and a competitive edge. In many cases, petabytes of data are being managed from many data sources.

- ArangoGraph manages the interconnection points between volumes of data sources to create clear data insights.
- Relevancy scoring with a recommendation engine produces best-fit, ranked results.
- Contextual relevancy is achieved using edges to define and support many-to-many relationships and a single representation for each participant across all contexts.

ADAPTIVE FRAUD DETECTION AND ANALYTICS

Today's criminals are constantly developing new techniques to hide their activities by forming fraud networks with stolen or synthetic identities. In many cases, attacks are launched from multiple vectors and can only be discovered by connecting diverse data sources to uncover difficult-to-detect patterns.

- ArangoGraph's native graph technology is ideal for solving challenges surrounding privacy laws that reduce the availability of personal identifiers for connecting seller accounts and identifying infringing listings.
- Leading brands across industries use ArangoGraph's multi-model graph capabilities to detect various fraud patterns in large data streams.
- The flexibility of a multi-model database, combined with rich graph pattern detection capabilities built into ArangoGraph, can detect today's and tomorrow's fraud activities in real time and quickly adapt to future evolving patterns.

The Bigger Truth:
Graph Done Right sets a long-term course for rich data insights.

Data will not stop growing, and data sources will continue to increase, as will the number of data users. Having a database designed to deal with complex data and all of the interconnections it represents is a smart decision for today and the future.

ArangoDB utilizes the inherent power of graph databases to manage complex, interconnected data sets.

If your organization is looking to help accelerate its digital transformation journey and gain immediate data insights, Enterprise Strategy Group recommends taking a closer look at ArangoDB's Graph Done Right solution.

LEARN MORE

ArangoDB

Source: Enterprise Strategy Group Complete Survey Results, *The State of DataOps*, August 2022.
Source: Enterprise Strategy Group Research Report, *2022 Technology Spending Intentions Survey*, November 2021.
Source: Enterprise Strategy Group Research Report, *Cloud Analytics Trends*, March 2022.