neo4j auradb

10

ADVANTAGES OF NEO4J AURADB ENTERPRISE

Why You Need a Fully Managed Graph Data Platform

Ramanan Balakrishnan
Senior Director of Product Marketing
Neo4j AuraDB

neo4j auraDB

Ramanan Balakrishnan
Senior Director of Product Marketing
Neo4j AuraDB

10 Advantages of Neo4j AuraDB Enterprise

Why You Need a Fully Managed Graph Data Platform

CONTENTS

Today's developers and data practitioners face daunting challenges:

- **An urgent need for advanced analytics to inform business strategy**
- **Morasses of siloed data, subject to increasing regulation**
- **Digital initiatives slowed or even stalled**
- **Complex landscapes of systems that need rationalization**
- **Pressure to create an improved customer experience ASAP**

Given these combined business and technical pressures, you need a database solution that allows you to make rapid progress on mission-critical initiatives.

Neo4j AuraDB Enterprise is a graph database-as-a-service, offered by the creators of the only enterprise native graph database. Fully managed and completely automated, AuraDB Enterprise enables developers to rapidly deploy, build and expand graph-powered applications in the cloud, without the friction of managing infrastructure.

Here are 10 compelling reasons to get started with Neo4j AuraDB Enterprise today.

1. Innovative

A new way to find insights in your data

The connectedness of your data and its network effects represent an untapped competitive advantage.

But analyzing connections in your data is difficult.

The status quo for data is characterized by fragmentation, silos, duplication and disparate formats. Connecting data using traditional methods such as JOINs between tables is slow and cumbersome.

With a graph database, you quickly move from disjointed data sources to connections that solve valuable use cases.

Graph data models are intuitive. It's easy to look at a graph and see the business problem and how everything is connected. Neo4j AuraDB Enterprise includes a powerful graph exploration and visualization tool, Neo4j Bloom. Graph data visualization brings stakeholders together from across the organization, driving "Aha!" moments of insight.

Graph data platforms provide a new way of thinking that drives innovation and gets you out of the relational rut. Companies that consult with the Neo4j Innovation Lab find that they make tremendous progress in a week or less, quickly uncovering use cases that drive immediate value.

The Lean-In Moment

"When you show users the visuals and the possibilities of the graph and the connections, you literally see them move forward toward the computer screen," said Paul Wescott, Product Director at Dun & Bradstreet. "Of all of the things I've seen in my career as a product manager, that lean-in moment is always the best."

Boston Scientific

Boston Scientific is a leading manufacturer of innovative medical devices. Data scientist Eric Wespi turned to Neo4j AuraDB Enterprise to help map the intricate data across their many complex supply chains and processes.

"We've used Neo4j to track and analyze our manufacturing data for several years," said Wespi.

"The schema flexibility and analytical capabilities of Neo4j allow us to see relationships between manufacturing batches that simply would not be possible with other tools. Deploying this project on Neo4j AuraDB Enterprise allows us to focus our efforts on optimizing our models and staying focused on quality-control analytics, knowing that the management of our graph database is under control."

2. Trusted

The most widely deployed graph data platform

Neo4j is the pioneer of the graph database category and continues to spearhead innovations and standards in the space. AuraDB is built and managed by the same experts who invented graph databases. Neo4j is trusted by hundreds of enterprises for their mission-critical apps. In fact, many software companies build their commercial applications on Neo4j, in effect betting their business on its market-leading performance and reliability.

No one has as much experience with graphs or as many graph database customers as Neo4j. Neo4j is the only enterprise graph data platform.

For developers building mission-critical applications in the cloud, Neo4j AuraDB Enterprise offers a fully managed graph database as a fast, reliable and easy-to-use cloud service.

Neo4j AuraDB is purpose-built for storing and analyzing data relationships and delivers lightning-fast queries for real-time data insights. With AuraDB, developers get to focus on what's important: effortlessly building and running rich, connected data applications without worrying about managing database infrastructure.

Neo4j serves more than 75% of the Fortune 100

7 of the world's top 10 retailers

3 of the top 5 aircraft manufacturers

8 of the top 10 insurance companies

All of North America's top 20 banks

8 of the top 10 automakers

3 of the world's top 5 hotels

7 of the top 10 telcos

GROUPE Adeo

ADEO is a leader in the DIY home improvement market. Gaëtan Belbeoch, Head of Omnicommerce Digital Experience, shared what made them choose Neo4j AuraDB Enterprise for their ecommerce real-time recommendation and merchandising engine.

"Neo4j AuraDB Enterprise is allowing us to realize our vision to build a knowledge graph that unifies all product knowledge to improve our retail recommendations, search and merchandising," Belbeoch said. *"Our trust in Neo4j's ability to manage and run the graph database to meet our SLA agreements, in addition to the company's deep experience in powering complex knowledge graphs and delivering real-time recommendations were what attracted us to AuraDB. We are happy to start a strong partnership with Neo4j and develop a close collaboration between our tech teams."*

3. Effortless

Zero administration, zero headaches

You want to build new applications and deploy cutting-edge analytics on your data. But more database administration tasks? No, thank you.

Neo4j AuraDB Enterprise is completely automated for the cloud, maintained and managed by graph database experts, so you're free to focus on what you do best: your application and strategy. We take care of the rest.

What you do

Get started fast; deploy in minutes

Focus on your application

Scale on demand with one click

What we do

Provision and manage all infrastructure

Create and manage clusters for redundancy

Deliver the latest features and updates, with zero downtime

Optimize database performance

Automate backups with one-click restore

Answer your questions and accelerate your progress

Answer the phone 24x7

APIAX

Apiax is a Swiss RegTech company that builds digital solutions to help financial institutions navigate and comply with complex regulations around the globe. Thomas Suter, CTO and Co-Founder, explained why Neo4j AuraDB Enterprise was selected to support a growing product portfolio.

"We selected Neo4j AuraDB Enterprise to allow us to turn complex banking regulations into a set of machine-readable rules," said Suter. *"We use Neo4j to automate the digitization of compliance laws. This equips our clients with binary answers to their most pressing legal questions. We are a small team of innovators, running most of our workload on AWS, so AuraDB Enterprise enables us to run our Neo4j instance with zero maintenance, allowing us to fully focus on our clients."*

---

4. Scalable

On-demand, no downtime

Elasticity: it's the key advantage of the cloud.

With Neo4j AuraDB Enterprise, you can scale your deployment up and down, managing your application infrastructure to meet the varying needs and demands of your workloads. Furthermore, there's no downtime; the service automatically readjusts and scales the database without any service interruption or degradation.

For a global user base, you need global scale, with availability zones around the world for enhanced customer experience. When demand spikes anywhere, you scale your instance with a single click.

Maritz®

The scientific study of human behavior is a central component of Maritz' company DNA, and it's ingrained in the design of their solutions. Brian Birk, Managing Architect of Maritz Motivation, explained why he chose Neo4j AuraDB Enterprise to help uncover valuable connections in behavioral science. *"Neo4j AuraDB Enterprise helps us to efficiently scale usage based upon client demand,"* said Birk. *"The managed service convenience of AuraDB helps us to leverage the power of Neo4j, while addressing the performance issues we experienced with our prior SQL-based solution. We can now support our vendor application, communication tools, and our data science team with fully managed convenience and without sacrificing performance."*

---

5. Fast

Lightning speed at scale

The native graph engine in Neo4j AuraDB Enterprise delivers performance at scale.

Neo4j is a native graph data platform that is built to store, query, analyze and manage highly connected data more efficiently than other databases. The Neo4j Graph Database scales both vertically and horizontally, without compromising data integrity, and its Causal Clustering architecture supports multi-clustering.

In Neo4j, data relationships are first-class entities and can be traversed in constant time. This allows even complex queries to deliver results in milliseconds rather than minutes. Neo4j customers have deployed graph datasets with tens of billions of nodes and relationships.

Query performance in a relational database is impacted by data growth and the number of JOINs. As tables get bigger, so do indexes, which means that joining the same number of entities requires more and more compute power. As questions get more challenging, the number of tables you have to JOIN increases. As the number of JOINs grows in a relational database, query times increase exponentially. More data means slower performance – and more dissatisfied users.

With Neo4j AuraDB Enterprise, more data means more value. Fast queries over billions of nodes deliver real-time insights.

With Neo4j, speed and agility go hand in hand. Relational schemas are rigid and changing them is disruptive. With a graph schema, you adapt the data model at any time, flexing it to meet your changing needs.

dun & bradstreet

Dun & Bradstreet provides commercial data, analytics and insights for businesses spanning various sectors. Matthew Voss, Identity Insights Leader, explained how his team supports business strategy using Neo4j AuraDB Enterprise.

"Neo4j helps us to answer questions that span connected data in real time, including Ultimate Beneficial Ownership (UBO) information," said Voss. *"Neo4j AuraDB Enterprise aligns well with Dun & Bradstreet's cloud strategy and helps us to deliver the deep knowledge our clients need to take intelligent actions based on timely compliance decisions."*

6. Secure

Enterprise-class security for sensitive data

With Neo4j AuraDB Enterprise, your data is encrypted everywhere: in transit and at rest. All network traffic, even within the service infrastructure, is encrypted using HTTPS with Transport Layer Security (TLS).

The data you store in AuraDB Enterprise, including backup snapshots, is encrypted at rest using the Advanced Encryption Standard (AES). And while Neo4j experts run Neo4j AuraDB Enterprise, no one at Neo4j has access to your data. Your data is safe and secure.

Neo4j AuraDB Enterprise deploys your clusters and service components in a separate Virtual Private Cloud (VPC), with dedicated cloud infrastructure.

Neo4j AuraDB Enterprise enables you to flexibly apply security to nodes and relationships within the graph. By providing role-based access control at the schema level, Neo4j AuraDB Enterprise ensures data privacy and eases the burden on developers.

> *There are a lot of things we like about Neo4j, but what's made the biggest impact on our work is the ability to apply security on nodes and relationships in a very flexible way. Our customers love that."*
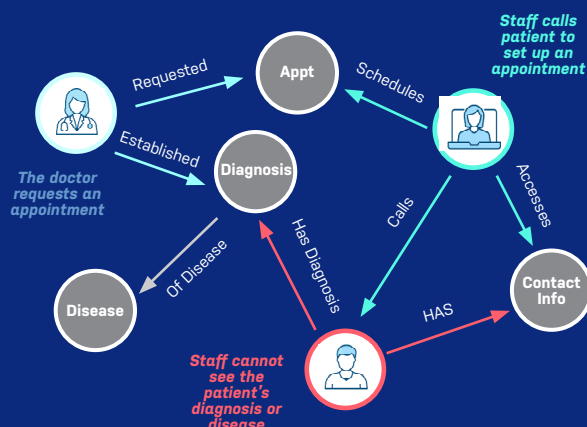
Michal Bachman,
CEO, GraphAware

Patient's Diagnosis Data

Consider a healthcare scenario: A patient's diagnosis data should be available only to the patient herself and her doctor. By setting permissions accordingly, organizations protect sensitive data and free developers to focus on application functionality.

	Patient Information	Doctor	Office Staff
Contact Information		✓	✓
Medical Records		✓	✗
Test Results		✓	✗
Diagnosis		✓	✗

Worldline

Worldline is the leading payment processor in Europe, offering digital payments, transactional and e-ticketing services in over 50 countries. Adrian Hepworth, Chief Architect UK&I, explained why they chose Neo4j AuraDB Enterprise to build a journey planner that spans UK travel operators. *"Using a graph database is a natural fit for journey planning and modeling of transport networks, their resources, operational planning and most importantly the customer experience,"* said Hepworth. *"Worldline chose Neo4j to support the sophisticated and highly performant pathfinding algorithms needed to search and traverse the UK travel network. We chose Neo4j AuraDB Enterprise based upon our security, integrity, flexibility, availability and scalability needs."*

NEO4J AURADB ENTERPRISE SECURITY

- Role-based access control at the schema level

- VPC with dedicated cloud infrastructure

- TLS encryption for data in transit

- AES encryption for storage, including backups

- Runs on trusted cloud infrastructure

- As an ISO 27001 certified organization, Neo4j is committed to supporting compliance with data protection regulations like GDPR

7. Reliable

Designed for mission-critical applications

An intelligent self-monitoring, self-healing architecture ensures that Neo4j AuraDB Enterprise is always available and optimized for the most demanding mission-critical applications.

With its fault-tolerant design, AuraDB has a service availability guarantee of 99.5%. It is uniquely designed to be always on, with no scheduled service interruption or maintenance windows – ever. AuraDB's infrastructure automatically and instantly recovers from component or infrastructure failures.

Behind the scenes, your graph database is automatically replicated to two other systems, creating a cluster that is fully managed for you. The data in each cluster member is then replicated to two different data centers and automatically distributed across multiple availability zones. This multi-level data protection ensures that your information is protected and available when you need it.

To ensure data sovereignty, you control where your data lives, enabling you to meet your data residency and sovereignty requirements.

In addition, database transactions in Neo4j AuraDB are fully ACID compliant. Enterprise use cases – and the graph data model itself – require rock-solid data integrity, and ACID transactions ensure that data is never lost or corrupted. Some non-native graph databases built on top of NoSQL data stores employ eventual consistency (i.e., BASE) and leave the door open for data corruption in graph datasets.

ACID: Atomic, Consistent, Isolated, Durable

Graph databases require graph expertise. Techniques that work in a relational database don't translate. A native graph database is distinguished by an exclusive preference to serve graph workloads across its entire stack. That stack – from query language through to the database management engine and file system considerations, and from clustering to backup and monitoring – epitomizes graph thinking throughout. Neo4j engineers zealously protect the integrity of the data in the graph. For this reason, enterprises across industries entrust their most critical data to Neo4j.

BO.sa Federal Public Service
Policy and Support

BOSA is a Belgian federal government partner. Godefroid Drugman, Project Manager eGovernment, explained why BOSA chose Neo4j AuraDB Enterprise to build a knowledge graph that manages contract and regulatory data across the government.

"Neo4j AuraDB Enterprise was a strategic choice to complete the data infrastructure for the Belgian Federal Government," said Drugman. *"We're leveraging the fully managed convenience of AuraDB to provide a single view across all applications and promote greater collaboration. We knew we needed a tool that allows us to move quickly and flexibly to keep up with changing regulations and needs. With AuraDB, we receive all of the benefits of Neo4j without having to manage and monitor our graph database."*

neo4j auraDB

8. Productive

Flexibility and ease of use for developers

With all major engineering projects, the biggest hurdle is often time to market. You have to validate your technology choices quickly and respond agilely, making developer productivity a key concern.

Neo4j AuraDB Enterprise enables developers to build apps faster and easier with built-in drivers, tools and integrations for many popular languages and frameworks. This means your development team codes in their preferred language while also tapping into support from the largest graph community on the planet. The bottom line: Ideas turn into reality – and quickly.

In addition, Cypher – the industry standard graph query language – is easy for developers to learn and powerfully executes queries across connected datasets.

Neo4j Official Language & Framework Support

JavaScript

Python

Java

Go

.NET

Spring

(Drivers for many other languages provided by Neo4j community users.)

Ivan Zasarsky, a Financial Crime Practice Leader at PwC Canada with over two decades of experience, explained why he selected Neo4j AuraDB Enterprise to support next-generation fraud detection and anti-money laundering use cases.

"Our clients expect cloud deployment options to solve their most pressing data and analytics problems, making Neo4j AuraDB Enterprise an important choice," Zasarsky said. *"With AuraDB, we are able to drive our fraud and anti-money laundering detection strategy, enabling our team to focus on rapid prototyping of connected data for each unique use case, as opposed to spending time on administrative tasks. At PwC, we prioritize the unique needs of our clients, including the largest national and global banks. AuraDB lives up to the assurance, trust and security demanded by highly regulated sectors."*

9. Cost-Effective

Simple pricing, predictable costs

Cloud pricing can be a moving target. Pricing structures vary considerably, making it difficult for you to budget accordingly.

Neo4j AuraDB Enterprise is priced in a different way. Pricing is simple: You pay only for what you need with simple capacity-based pricing. You're in control.

With flat hourly rates, costs are predictable and transparent. Costs are perfectly aligned with your usage, with no waste from excess capacity.

There are no extra fees for compute, storage, I/O or backups, just your chosen RAM capacity, at flat hourly rates.

With Neo4j AuraDB Enterprise, you pay through your cloud marketplace. This means you deploy easily, draw down on your committed spend with your cloud vendor, and get a unified bill across AuraDB and your other cloud services. At the end of the day, it's easy to procure and manage your spend.

10. Future Proof

The latest features, ready for you

With Neo4j AuraDB Enterprise, you are guaranteed to get the newest features and upgrades as soon as they are available, while staying backward compatible.

Neo4j delivers new features to the cloud first. That means no waiting for you. Compare this to the typical cycle of applying the latest release: installing the new version, testing it out, then finally deploying it in production. This process typically takes about 18 months.

With Neo4j AuraDB Enterprise, you benefit from the very latest graph data platform capabilities immediately and seamlessly.

Department for Education

The Department for Education (DfE) is a department of Her Majesty's Government, responsible for child protection, education, apprenticeships and wider skills in England. Luke Slowen, Enterprise Architect at DfE, shared his reasons for selecting Neo4j AuraDB Enterprise.

"The Department for Education delivers critical services across the education sector, for which we depend on a complex IT infrastructure composed of multiple business systems, services, applications and components," said Slowen. *"Our Neo4j graph creates a shared view of our service landscape, which we use to find ways to reuse capability, improve usability and rationalise, delivering better value services for our users. Neo4j AuraDB helps us visualise our data and the opportunities in one place, so we can focus our efforts on streamlining our service delivery and operations."*

∞ LUCINITY

Lucinity is an anti-money laundering software company that bridges the gap between AI and analysts to help banks fight against the ever-evolving threat of money laundering. CEO Gudmundur Kristjansson explained how Neo4j AuraDB Enterprise helps his team to deliver on what he describes as *"human AI to make money good."*

"At Lucinity, we pride ourselves on staying at the forefront of technology to help our clients solve one of the toughest problems faced by banks today – maintaining customer satisfaction while also rooting out the bad actors," Kristjansson said. *"Neo4j AuraDB Enterprise allows us to leverage the full power of native graph technology – from finding and predicting fraud patterns, to delivering the latest analytical and AI techniques to our clients. AuraDB's ability to flex capacity based on usage, together with its fully managed simplicity and predictable cost, ensure we stay agile to meet the needs of our growing business."*

The Orchard.

The Orchard is a leading music distribution company, revolutionizing the way artists market, distribute and monetize their content. Jacob Fowler, Chief Technology Officer, explained why his team has chosen to partner with Neo4j AuraDB Enterprise to support their complex user permissions and metadata modeling architecture.

"We recognized from the start that our business needed to solve a connected data problem – the management of complex interrelationships between artists, albums, sound recordings, labels, managers and employees, making this partnership with Neo4j a perfect fit," said Fowler. *"With Neo4j AuraDB Enterprise, we've built a scalable, cloud-based knowledge graph to visualize, analyze and navigate the way our organization manages its various interconnected entities. Now, we can effectively manage our costs with transparent pricing, leaving us free to focus our efforts on running our business, not running a graph database."*

Conclusion

Building your application and innovating with your data should be your primary concerns. Neo4j AuraDB Enterprise takes care of everything else.

Neo4j AuraDB Enterprise offers you a clear path forward, with proven enterprise performance and seamless, worry-free operations. You scale your deployment up – or down – as needed.

With Neo4j AuraDB Enterprise, your connected data not only powers mission-critical applications, but unlocks new vistas for learning from the data you already have.

Whether your problem at hand is finding a cure for cancer, shaving years off the mission to Mars or pivoting to meet new business challenges, Neo4j AuraDB Enterprise positions you to reap immediate business benefits on a solid foundation.

What will your first use case be?

Learn more about
Neo4j AuraDB

Top Use Cases for Graph Data Platforms

- Fraud Detection
- Real-Time Recommendations
- Knowledge Graphs
- Anti-Money Laundering
- Master Data Management
- AI & Machine Learning
- Supply Chain Management
- Network & IT Ops Management
- Identity & Access Management
- Bill of Materials
- Data Lineage

Questions about Neo4j?

Contact us
around the globe:
info@neo4j.com
neo4j.com/contact-us