

Product Brief: The Neo4j Graph Platform

PLATFORM COMPONENTS

The Neo4j Database 3.3

Graph Analytics & Algorithms

Data Integration with Neo4j ETL & Data Lake Integrator

Cypher for Apache Spark via the openCypher Project

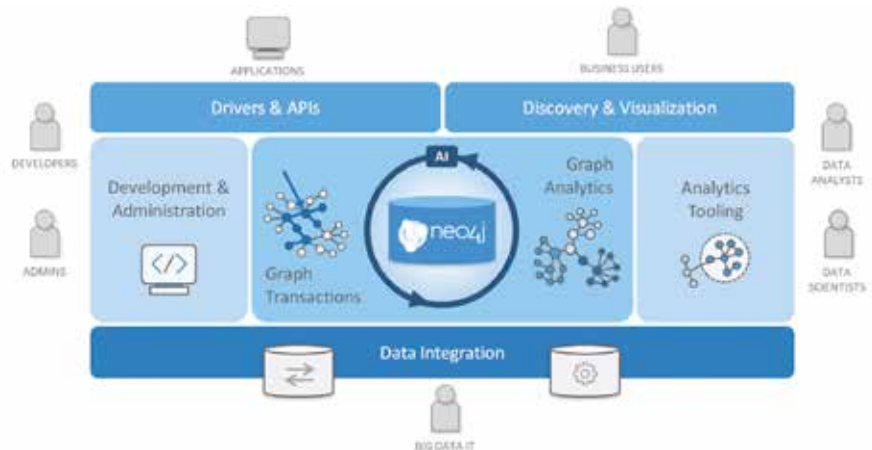
Partner-based Graph Visualization tools for business users

Neo4j Desktop, a free developer package of Enterprise Edition

Beyond developers, the Neo4j Graph Platform is built for big data architects, data scientists, business analysts and line-of-business IT and C-level executives in charge of digital transformation.

The Neo4j Native Graph Platform

Neo4j – the provider of the world’s most popular native graph database – has transformed into the builder of the leading **graph platform** designed for enterprise IT ecosystems and users.



Graph Platform Components and the Roles They Serve

Neo4j Database 3.3 improvements include:

- 50 % faster write and import performance in Community Edition
- Faster cluster throughput and more robust security in Enterprise Edition

Graph Analytics including **Graph Algorithms** to extend Neo4j’s OLTP functionality.

Data Integration capabilities via preview releases of:

- **Neo4j ETL** (Extract-Transform-Load) converts relational datasets into graphs.
- **Data Lake Integrator** builds graphs for “big data” stored in Hadoop-based data lakes.

Analytic Tooling includes a preview of **Cypher for Apache Spark™** from the openCypher project. Combined with Spark, this creates a declarative in-memory graph calculation engine. Cypher for Apache Spark includes new Cypher features like the ability to produce graphs from queries and distill graphs from raw Hadoop data.

Discovery & Visualization strengthens ties with partners in reaching business users.

Neo4j Desktop includes Neo4j Enterprise Edition for Developers

Neo4j Desktop is the new mission control console for developers. It’s free with registration, and it includes a local development license for Neo4j Enterprise Edition and an installer for APOC. It keeps Java up to date, launches custom applications, auto-updates and will eventually connect to production servers. Neo4j Desktop also provides access to:

- Built-in user management, user security, Kerberos authentication and LDAP integration
- Performance boosts from Cypher, enterprise lock management and space reuse
- Schema features like Node Keys, existence constraints and composite indexes
- Scaling features like unlimited nodes and relationships as well as supported Bolt drivers
- Exposure to production deployment features like High Availability (HA), disaster recovery, secure Causal Clustering, IPv6 and least-connected load balancing

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Cypher for Apache Spark publishes extensions to Cypher for naming and composing graphs, meaning that Cypher can make new named graphs *from* graph queries.

These types of queries can be strung together as algorithmic steps carried out automatically in an application or within an analytic work.

Graph Analytics

Graph Analytics helps organizations gain a connections-first perspective of their data assets that may never have been revealed before. The **Graph Algorithms** library supports the ability to detect hard-to-find patterns and structures in connected data.

- **Community detection** to evaluate how your graph is clustered or partitioned
- **Pathfinding** to find the shortest path or evaluate route availability and quality
- **Centrality** like PageRank to determine the most distinctive nodes in the network

Analytic Tooling via Cypher for Apache Spark

The **openCypher project** has released an alpha version of Cypher for Apache Spark under the Apache 2 license, to the Spark community. **Cypher for Apache Spark** – when combined with Spark – creates a huge in-memory graph calculation and traversal engine to draw data from Hadoop via the Spark engine and operate upon it as a graph dataset.

- **Cypher for Apache Spark** publishes extensions to Cypher for naming and composing graphs, meaning that Cypher can make new named graphs from graph queries. These types of queries can be strung together as algorithmic steps carried out automatically in an application or within an analytic work.
- **openCypher** now represents the reference implementation of the Cypher query language, and Cypher is being actively offered as the “SQL for graphs” to standards bodies. These open activities have gained momentum as products like SAP HANA Graph, Redis and MemGraph adopt Cypher.

Data Integration Tools

Neo4j helps **operationalize connections and turn them into high-value graph applications**. In fact, mature customers are building artificial intelligence into their applications as they grow and adding new data and algorithm logic to their deployments. This coordination among developers, big data IT and data scientists depends on new data integration techniques to drive the next generation of intelligent applications.

Neo4j has released preview versions of two new data integration tools:

- **Neo4j ETL** includes a graphical interface for connecting to relational databases via JDBC and converting their schema into a graph structure. Once defined, the ETL tool generates graph-specific CSV files ready to import into the Neo4j Database. The Neo4j bulk data import tool loads this data at astonishing speeds.
- **Neo4j Data Lake Integrator** combines features from Neo4j ETL with capabilities delivered in CAPS to transform how data lakes are explored. This future product will materialize graphs from Hadoop data and persist them in Neo4j for analysis or use in applications. Graphs can be saved as snapshots to text files returned to HDFS.

Data Discovery and Visualization

Neo4j offers graph visualization to business analysts and users via our partners including Linkurious, Tom Sawyer, Tableau, Jet Brains and KeyLines. Users also have the Neo4j Browser and Neo4j Professional Services to help construct custom visualizations.

Neo4j, Inc. is the graph company behind the leading platform for connected data. The Neo4j graph platform helps organizations make sense of their data by revealing how people, processes and digital systems are interrelated. This connections-first approach powers intelligent applications tackling challenges such as artificial intelligence, fraud detection, real-time recommendations and master data.

More than 250 commercial customers, including global enterprises like Walmart, Comcast, Cisco, eBay and UBS use Neo4j to create a competitive advantage from connections in their data.

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