

## Neo4j

Neo Technology was founded in 2007 in Sweden and moved to the United States in 2011. Its product, Neo4j, is a labelled, property graph database with a native engine that is targeted at operational and hybrid operational/analytic use cases. It is ACID compliant and supports immediate consistency. Unusually for a property graph SPARQL is supported. So too is Gremlin (part of the Apache Tinkerpop project). However, most users employ Cypher or OpenCypher (the open source version), which is the declarative language developed by Neo4j. It is notable that both Databricks and Oracle have publicly endorsed OpenCypher. As with any declarative language this is best implemented along with a database optimiser and the company has devoted considerable resources to this, extending beyond an original rules-based optimiser so that it is now primarily cost-based. In the latest release (3.0) the optimiser is used to optimise writes as well as reads. In addition, the optimiser supports Cypher queries running against Spark environments as well as Neo4j. Historically, the company has prioritised performance over scale but the latest developments introduced by the company (and those planned for the next release, due later in 2016) mean that this is no longer the case. Finally, it is worth stating that the company has a significant partner base in addition to its direct customers and some of these have extended the product's capabilities. For example, Structr.org has extended Neo4j to act as a JSON document database while GrapheneDB is a fully managed cloud-based version of Neo4j running on both AWS and Heroku.

### Strengths

- Neo Technology is the leading vendor of property graphs and Neo4j is the most well-known database in the entire graph space.
- Performance is a major focus: Neo4j not only has a native graph engine but the company has also invested significant resources into its database optimiser.
- The longevity of the company and its product mean that Neo4j is likely to be more stable, more robust and more enterprise ready than some of its more recently introduced competitors.



#### Neo4j

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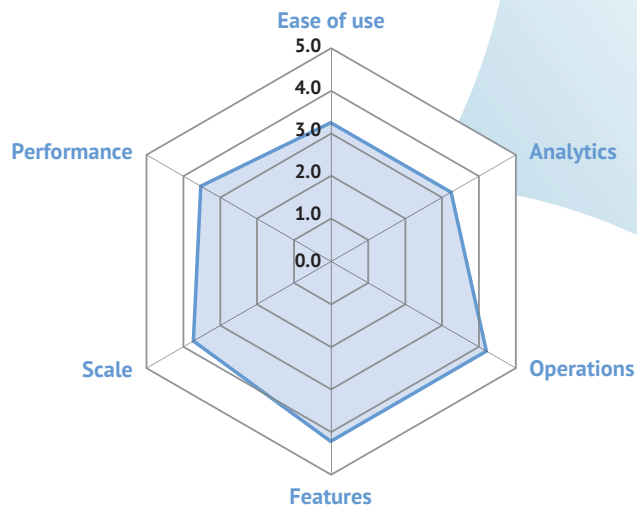
[www.neo4j.com/company/](http://www.neo4j.com/company/)

### Threats

The only potential threat to Neo4j's leadership position is if one or more of the 800lb gorillas (IBM, Microsoft, Oracle, SAP) get their graph act together. At present there are no signs of that happening anytime soon.

### Summary

Neo4j is the clear leader in the property graph space when it comes to operational and hybrid operational/analytic environments.



*It is important to note that these scores are in comparison to a theoretical ideal product rather than in comparison to any competitive product.*