Martin Bagge Rasmussen

Søren Borring Sørensen

Casper Arlofelt Jørgensen

GitHub: https://github.com/xxblancxx/Neo4jVSMysql

Note: *We ended up only using the small datasets, as LOAD CSV took*

an estimated 9 hours for both nodes and edges. We tried increasing RAM and heap sizes of the VM and Neo4j, but it still wasn't a big enough improvement to help us.
We also tried installing Neo4j directly on the hardware, but the lack of speed was the same.

Depth 1.

Cypher

MATCH (p:Person)-[:ENDORSES]->(p2:Person)
WHERE p.id = 130
RETURN p.name,p2.name

MYSQL

SELECT Person.name, Person2.name
FROM Person, Person as Person2, Endorsement
WHERE Person.node_id = 130
AND Person.node_id = Endorsement.source_node_id
AND Person2.node_id = Endorsement.target_node_id

Depth 2.

Cypher

MATCH (p:Person)-[:ENDORSES]->(p2:Person)-[:ENDORSES]->(p3:Person)
WHERE p.id = 130
RETURN p.name,p2.name,p3.name

MYSQL

SELECT Person.name, Person2.name, Person3.name
FROM Person, Person as Person2,Person as Person3, Endorsement,
Endorsement as Endorsement2
WHERE Person.node_id = 130
AND Person.node_id = Endorsement.source_node_id
AND Person2.node_id = Endorsement.target_node_id
AND Person2.node_id = Endorsement2.source_node_id
AND Person3.node_id = Endorsement2.target_node_id

Depth 3.

Cypher

MATCH(p:Person)-[:ENDORSES]->(p2:Person)-[:ENDORSES]->(p3:Person)-[:EN
DORSES]->(p4:Person)
WHERE p.id=130
RETURN p.name,p2.name,p3.name,p4.name

MYSQL

SELECT Person.name, Person2.name, Person3.name, Person4.name
FROM Person, Person as Person2,Person as Person3,Person as Person4,
Endorsement, Endorsement as Endorsement2,Endorsement as Endorsement3
WHERE
Person.node_id = 130
AND Person.node_id = Endorsement.source_node_id
AND Person2.node_id = Endorsement.target_node_id

AND Person2.node_id = Endorsement2.source_node_id
AND Person3.node_id = Endorsement2.target_node_id
AND Person3.node_id = Endorsement3.source_node_id
AND Person4.node_id = Endorsement3.target_node_id

Depth 4.

Cypher
MATCH(p:Person)-[:ENDORSES]->(p2:Person)-[:ENDORSES]->(p3:Person)-[:ENDORSES]->(p4:Person)-[:ENDORSES]->(p5:Person)
WHERE p.id=130
RETURN DISTINCT p.name,p2.name,p3.name,p4.name,p5.name
MYSQL
SELECT DISTINCT Person.name, Person2.name, Person3.name, Person4.name, Person5.name
FROM Person, Person as Person2,Person as Person3,Person as Person4,Person as Person5, Endorsement, Endorsement as Endorsement2,Endorsement as Endorsement3,Endorsement as Endorsement4
WHERE
Person.node_id = 130
AND Person.node_id = Endorsement.source_node_id
AND Person2.node_id = Endorsement.target_node_id
AND Person2.node_id = Endorsement2.source_node_id
AND Person3.node_id = Endorsement2.target_node_id
AND Person3.node_id = Endorsement3.source_node_id
AND Person4.node_id = Endorsement3.target_node_id
AND Person4.node_id = Endorsement4.source_node_id
AND Person5.node_id = Endorsement4.target_node_id

Depth 5.

Cypher
MATCH(p:Person)-[:ENDORSES]->(p2:Person)-[:ENDORSES]->(p3:Person)-[:ENDORSES]->(p4:Person)-[:ENDORSES]->(p5:Person)-[:ENDORSES]->(p6:Person)
WHERE p.id=130
RETURN DISTINCT p.name,p2.name,p3.name,p4.name,p5.name,p6.name
MYSQL
SELECT DISTINCT Person.name, Person2.name, Person3.name, Person4.name, Person5.name, Person6.name
FROM Person, Person as Person2,Person as Person3,Person as Person4,Person as Person5, Person as Person6, Endorsement, Endorsement as Endorsement2,Endorsement as Endorsement3,Endorsement as Endorsement4,Endorsement as Endorsement5
WHERE

Person.node_id = 130
AND Person.node_id = Endorsement.source_node_id
AND Person2.node_id = Endorsement.target_node_id
AND Person2.node_id = Endorsement2.source_node_id
AND Person3.node_id = Endorsement2.target_node_id
AND Person3.node_id = Endorsement3.source_node_id
AND Person4.node_id = Endorsement3.target_node_id
AND Person4.node_id = Endorsement4.source_node_id
AND Person5.node_id = Endorsement4.target_node_id
AND Person5.node_id = Endorsement5.source_node_id
AND Person6.node_id = Endorsement5.target_node_id