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Neo4j Legacy relationship auto-index Slow in cypher query

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★

NODES

```
1000000 x ({prop:'a'})
1000000 x ({prop:'b'})
1000000 x ({prop:'c'})
```

NODE SET = ~3MegaNodes

Obs.: prop is not an exclusive atribute.

RELATIONSHIPS

```
1000 x [:TYPEA {date:20150301} ]
1000 x [:TYPEA {date:20150228} ]
1000 x [:TYPEA {date:20150227} ]
1000 x [:TYPEA {date:........} ]
1000 x [:TYPEA {date:19000101} ]

1000 x [:TYPEB {date:20150301} ]
1000 x [:TYPEB {date:20150228} ]
1000 x [:TYPEB {date:20150227} ]
1000 x [:TYPEB {date:........} ]
1000 x [:TYPEB {date:19000101} ]
```

TYPEA = 42062 days x 1 000 rels

TYPEA = ~42 000 000

TYPEB = ~42 000 000

RELATIONSHIP SET = ~84 MegaRels

I wanna match the pattern:

```
MATCH (n1 {prop:'a'}) –[ r1:TYPEA {date:20001231} ]–> (n2 {prop:'b'})
RETURN n2;
```

Improve by indexing

My neo4j.properties:

```
relationship_auto_indexing=true
relationship_keys_indexable=date
```

The cypher query:

```
START
  r1 = relationship:relationship_auto_index('date:20001231')
MATCH (n1 {prop:'a'}) –[r1:TYPEA]–> (n2 {prop:'b'})
RETURN n2;
```

:) Work fine!

Now, I wanna match the pattern:

```
MATCH
  (n1 {prop:'a'})
  –[ r1:TYPEA {date:20001231} ]–>
  (n2 {prop:'b'})
```

asked   4 months ago

viewed   34 times

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{} Straight line in TikZ with 'continued' marking in the middle

```
 (n2 {prop: b })
 -[ r2:TYPEA {date:20001231} ]->
 (n3 {prop:'c'})
RETURN n2, n3;
```

Then I try:

```
START
  r1 = relationship:relationship_auto_index('date:20001231'),
  r2 = relationship:relationship_auto_index('date:20001231')
MATCH (n1 {prop:'a'}) -[r1:TYPEA]-> (n2 {prop:'b'}) -[r2:TYPEA]-> (n3 {prop:'c'})
RETURN DISTINCT n2,  n3;
```

:(Run Slow.

Because Cartesian product occurs producing many intermediate results. 1000 ^ 2.

On the one hand, is not possible use the same identifier more than once in the query.

On the other hand, Labels index (Schema) do not apply to relationships.

There are hope? (Release: Neo4j-community-2.2.0)

There are any benefit in relationship legacy indexing when not using the clause start in the query cypher?

Thanx

indexing   neo4j   cypher   relationship   timing

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asked Apr 4 at 21:29

Fernando Santos
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1 Answer

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This modify the conceptual query, but worked fine:

```
START
  r = relationship:relationship_auto_index('date:20001231')
WITH [x IN COLLECT(r) WHERE TYPE(x)='TYPEA'] AS cr
UNWIND cr AS r1
  MATCH (n1 {prop:'a'}) -[r1]-> (n2 {prop:'b'})
WITH DISTINCT n2, cr
UNWIND cr AS r2
  MATCH (n2) -[r2]-> (n3 {prop:'c'})
RETURN DISTINCT n2,  n3;
```

Thx

share improve this answer

answered Apr 4 at 22:33

Fernando Santos
11 ● 2

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