



Parts Explosion With Neo4j

Using the power of Neo4j graphs to navigate Army logistics data

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CALIBRE

An employee-owned management consulting and information technology solutions company

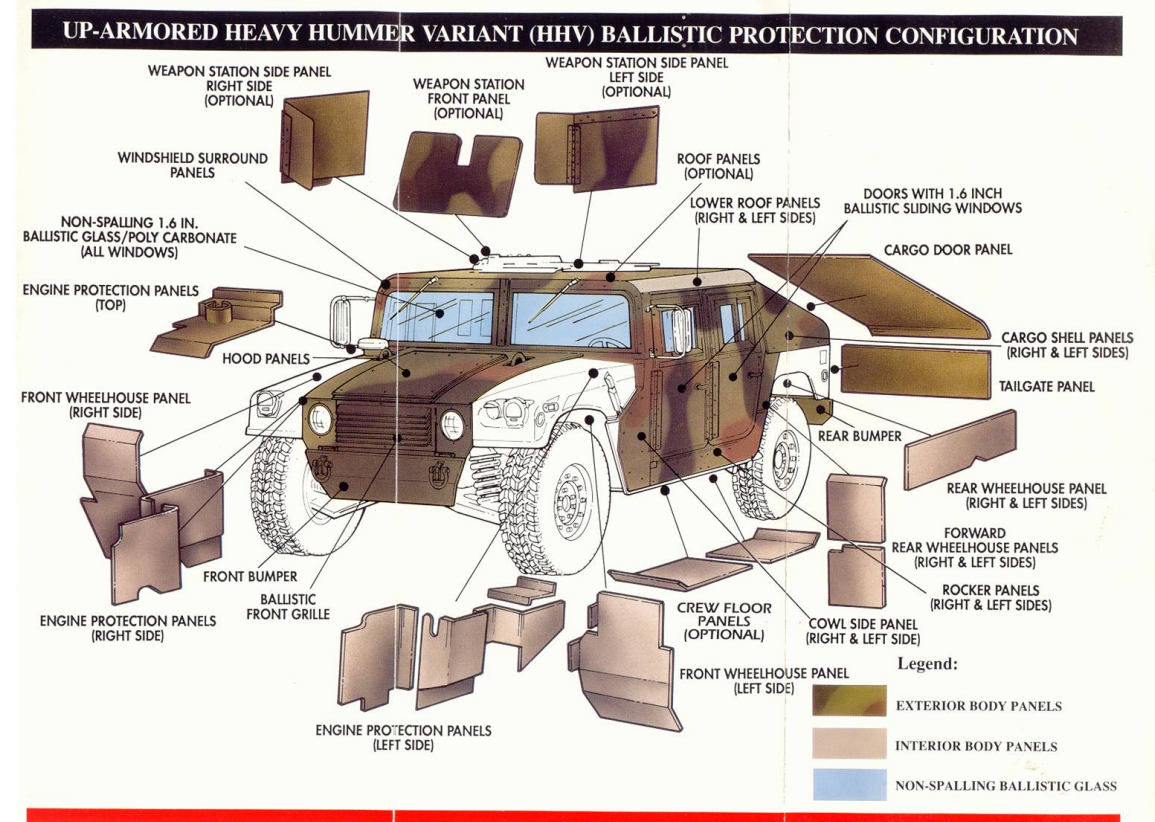


Agenda



- Define The Requirement
- Data Analysis
- Data Modeling
- Neo4j Implementation
- Resources

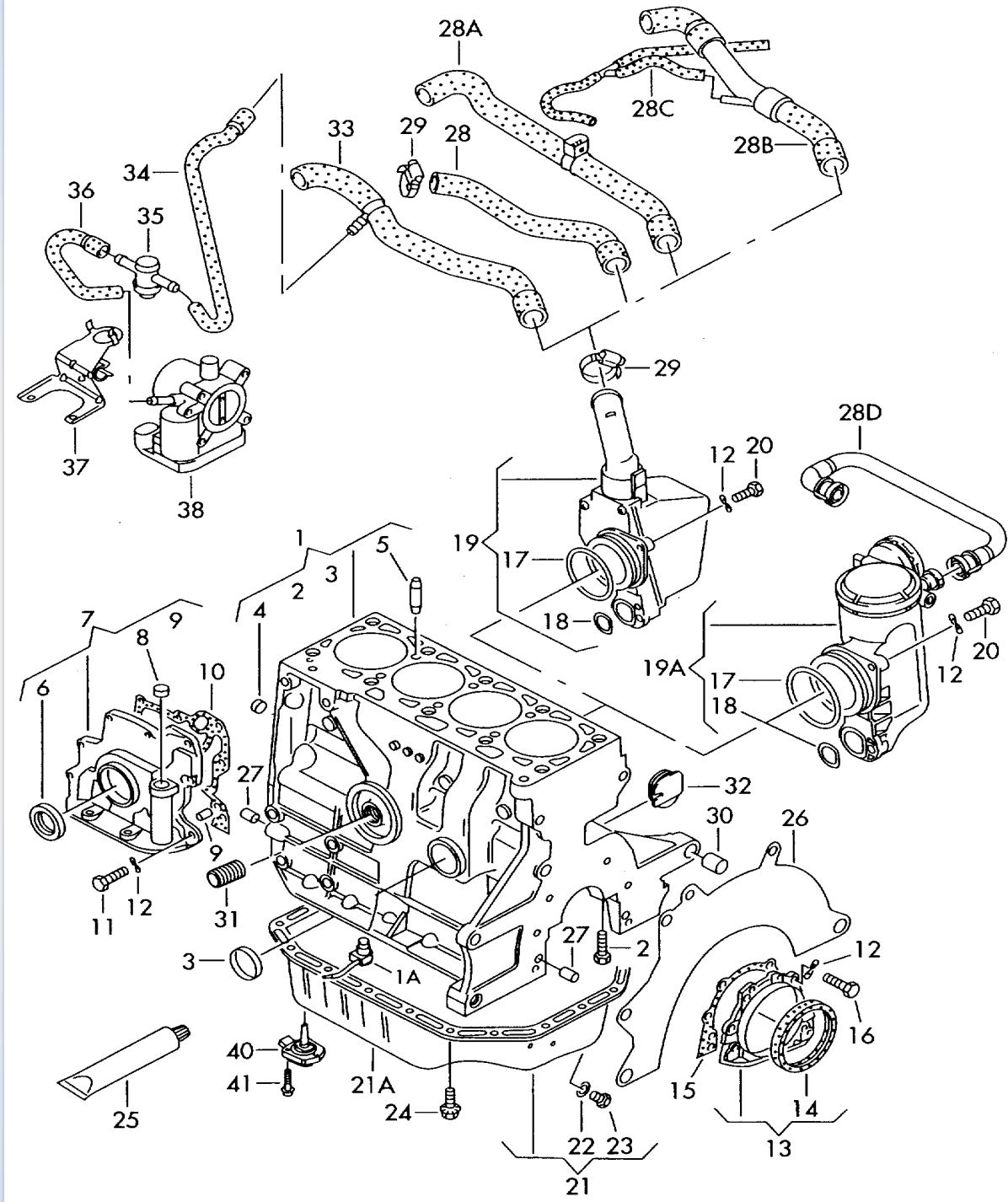
Define The Requirement



Define The Requirement

- Identify list of all parts
- Track part relationships
- Identify interchangeable parts
- Produce comprehensive parts explosions

	A	B
1	Part	Component
2	88818	10883669
3	88818	12824051
4	88818	12823747
5	88818	14575179
6	14575179	14926324
7	14926324	15154615
8	14926324	14926324
9	88818	11069519
10	86	11650646
11	86	11007672
12	86	11007672
13	86	14421940
14	86	15759632
15	86	15323399
16	86	12353388
17	86	12328835
18	86	14421940
19	86	11007672
20	86	11007672
21	86	11007672

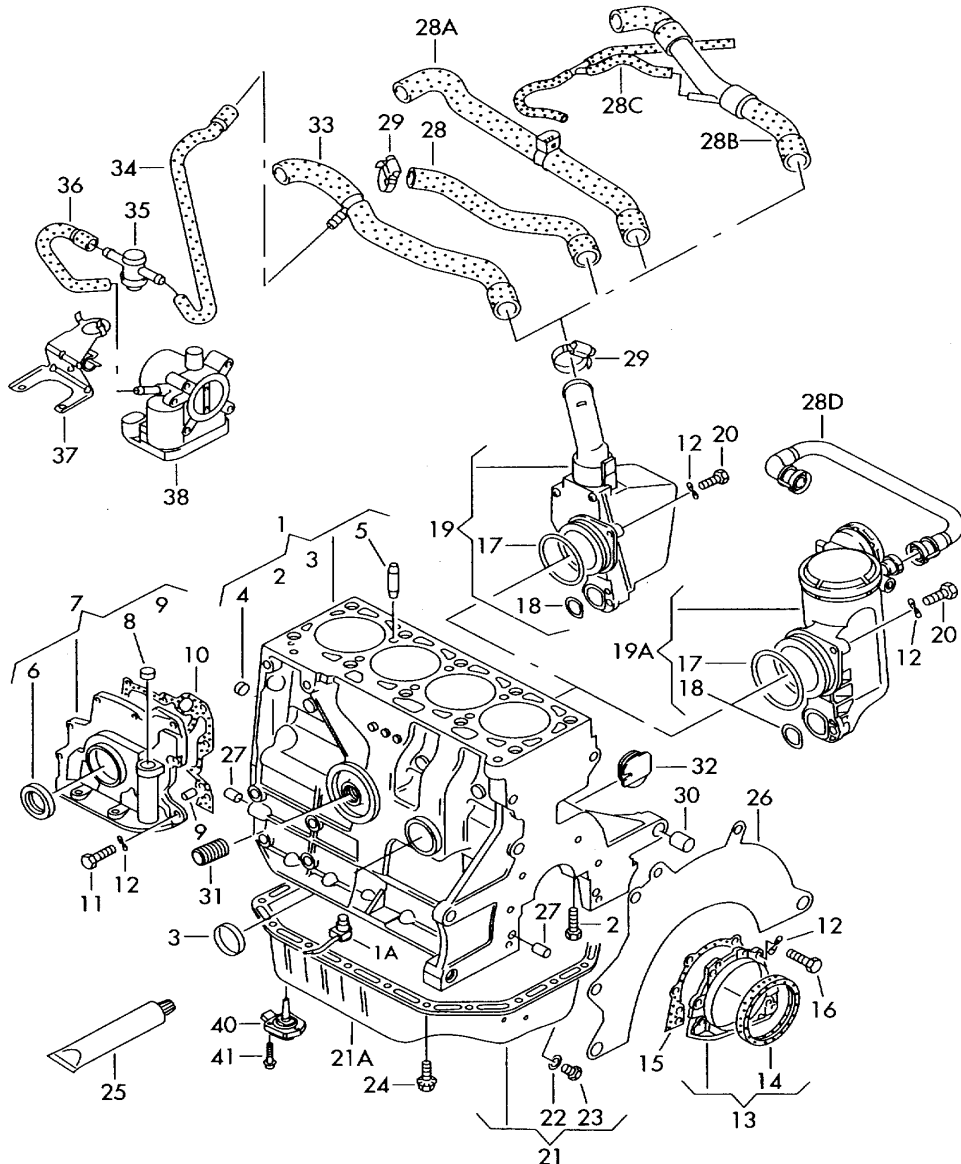


I HAVE AN IDEA



**BUT I'M GOING TO NEED A BIGGER WAND
.... AND HERMIONE**

Data Modeling



Part

Part Number (PK)

Parent Part Number

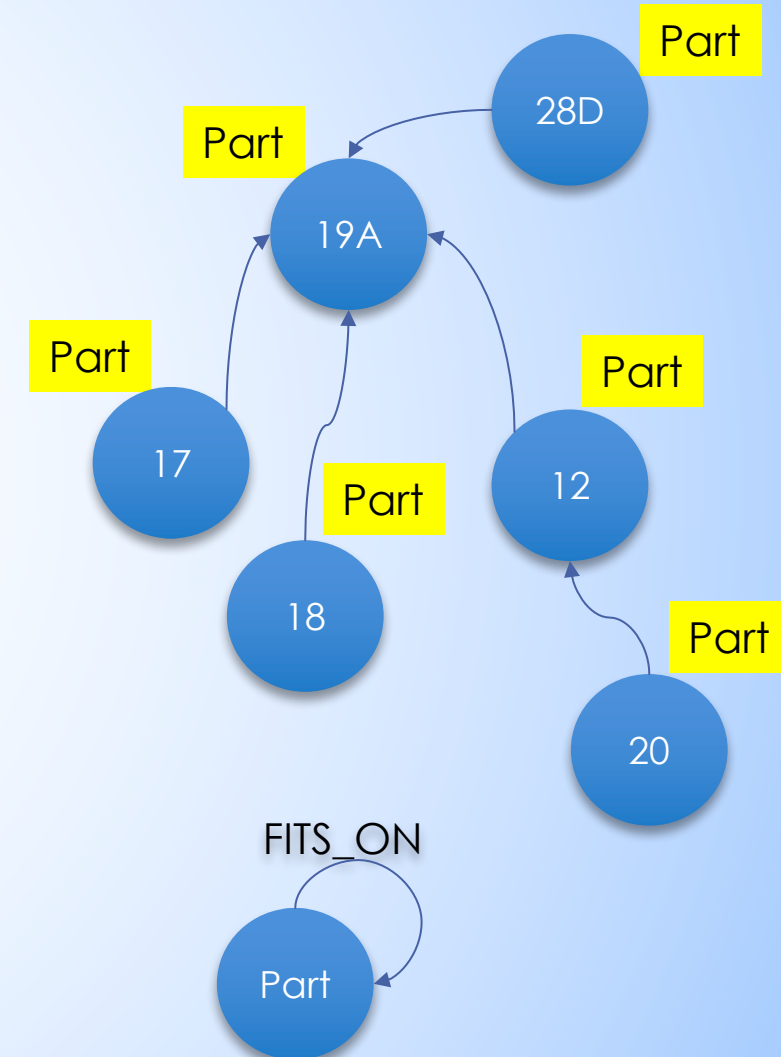
Part

Part Number (PK)

Connect

Parent Part Number (PK)

Child Part Number (PK)

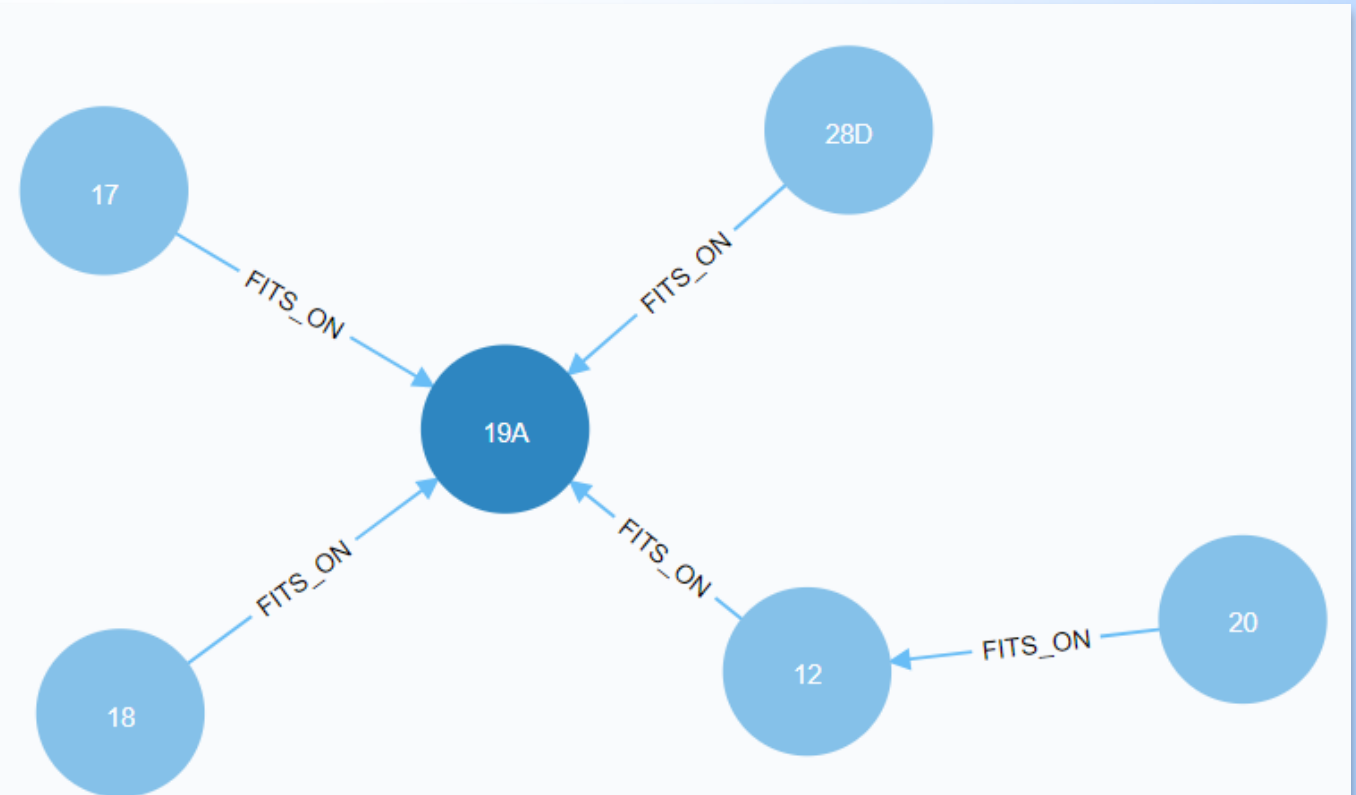
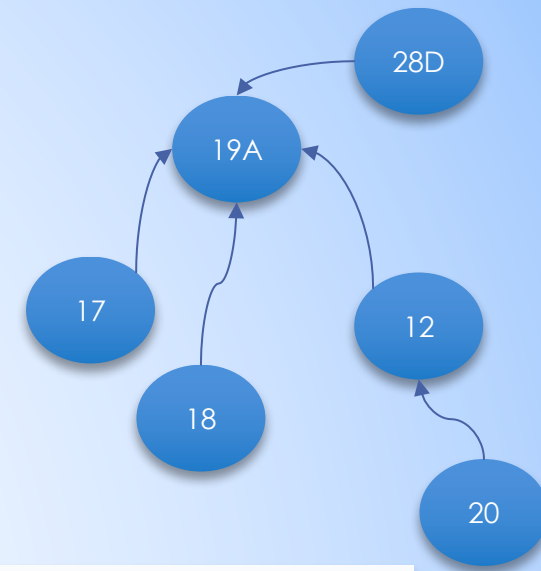
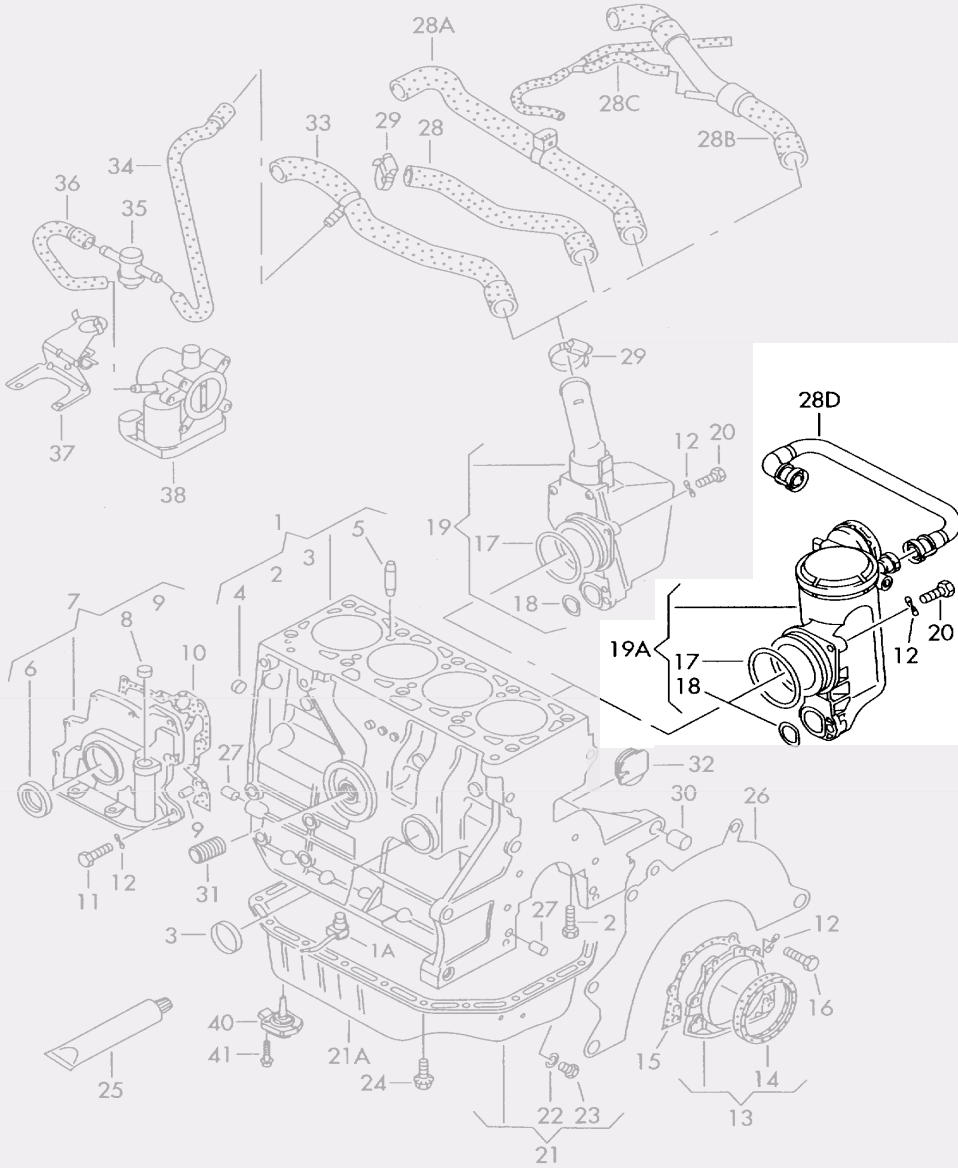


USE A GRAPH, YOU WILL



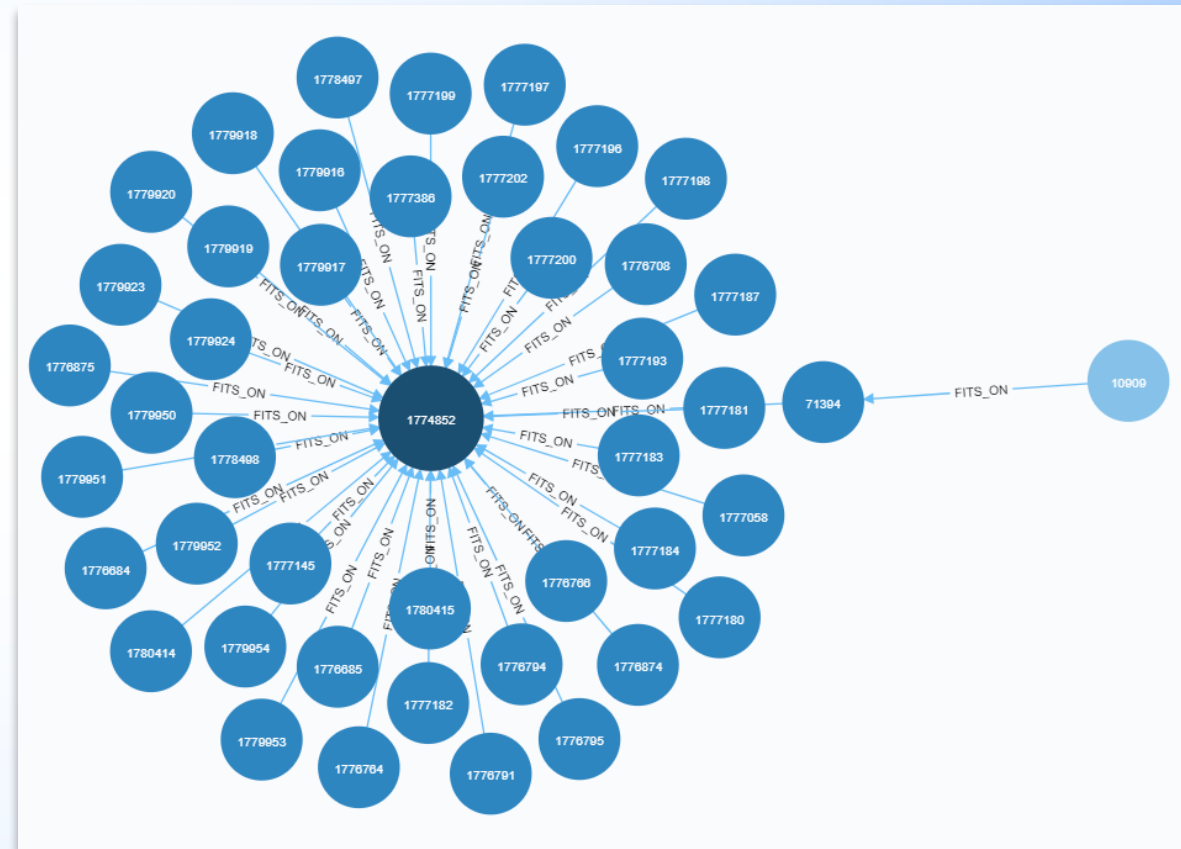
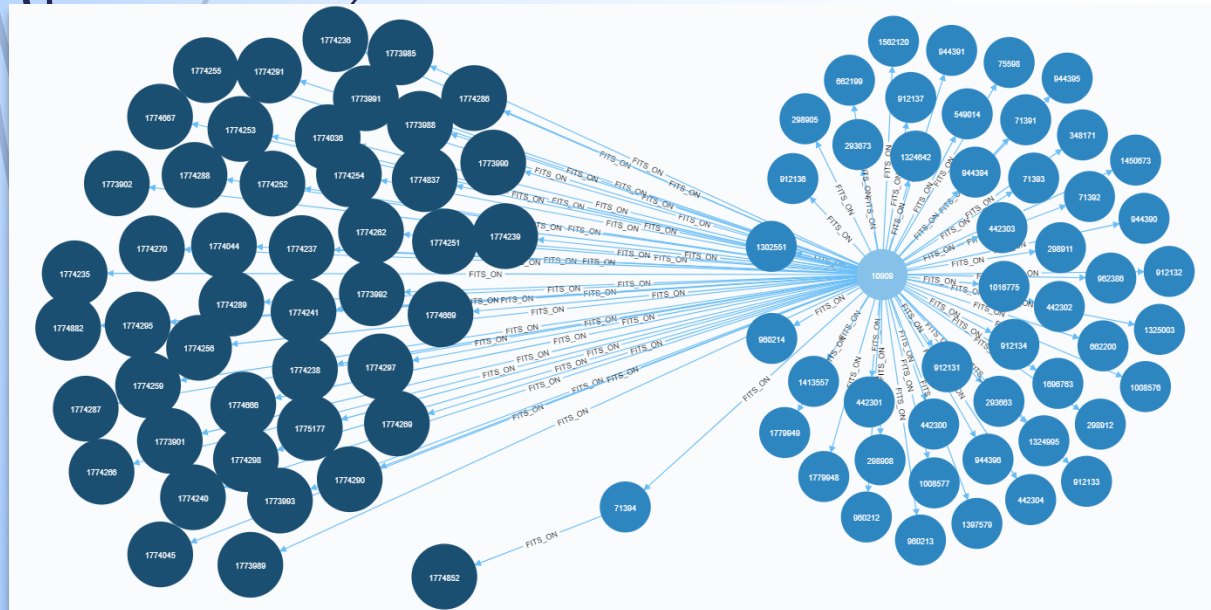
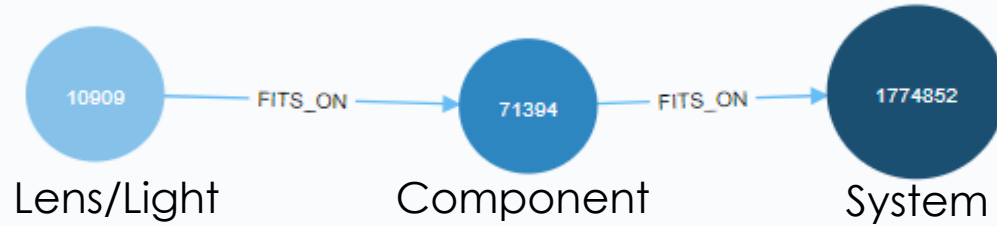
MATCH p=(:Part)-[:FITS_ON*]->(:Component {PartNumber:"19A"}) RETURN p

Neo4j Implementation



MATCH p=(pt:Part)-[:FITS_ON]->(:Component)-[:FITS_ON]->(s:System) WHERE id(pt) = 10909 RETURN p LIMIT 1

Neo4j Implementation

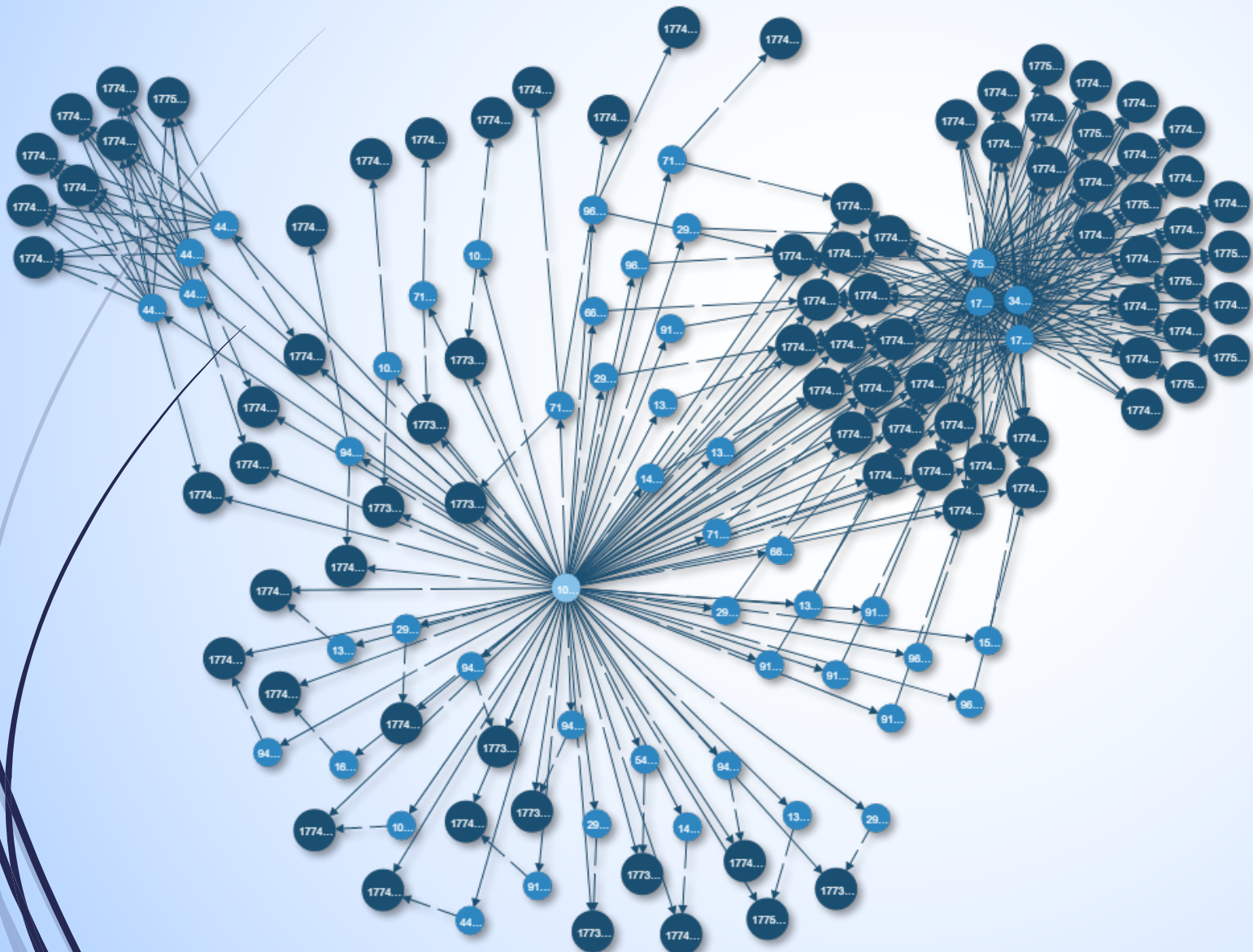


MATCH p=(pt:Part)-[:FITS_ON*]->(s:System) WHERE id(pt) = 10909 RETURN p

Neo4j Implementation

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ONE DOES NOT SIMPLY



IGNORE GRAPH TECHNOLOGY

Resources

- Google Groups: <https://groups.google.com/forum/#!forum/neo4j>
- Neo4j Meetup Groups
 - Baltimore-Washington: <https://www.meetup.com/graphdb-baltimore/>
 - College Park, MD: <https://www.meetup.com/College-Park-Neo4j-Meetup/>
 - Columbia, MD: <https://www.meetup.com/Columbia-GraphDB-MeetUp/>
- Slack: <http://neo4j.com/slack>
- Stack Overflow: <https://stackoverflow.com/questions/tagged/neo4j>
- YouTube: <https://www.youtube.com/channel/UCvze3hU6OZBkB1vkhH2IH9Q>