

Queries & Transformations in the DRAGOS Graph Database

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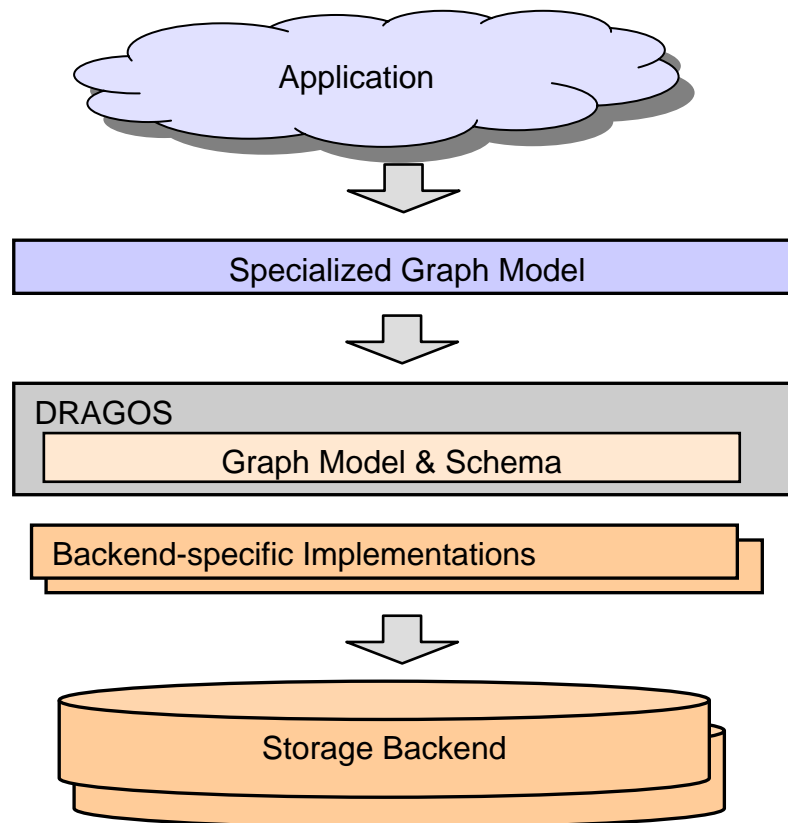
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DRAGOS – The Graph Database



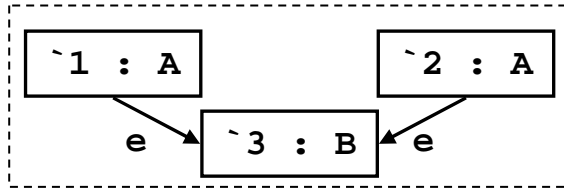
» API suitable for applications

» Common graph model

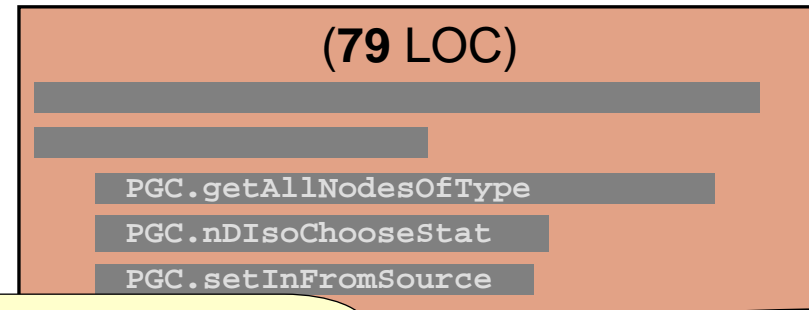
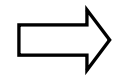
» Based on existing DBMS (Relational, OO), in-memory storage

Example: PROGRES Query evaluation

query simpleQuery =

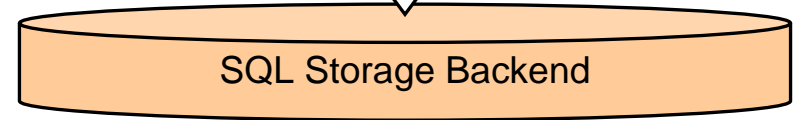


end;



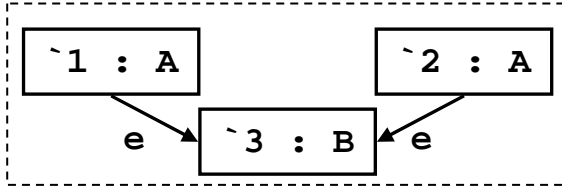
64 SQL Statements

- excludes UI activities
- includes caching

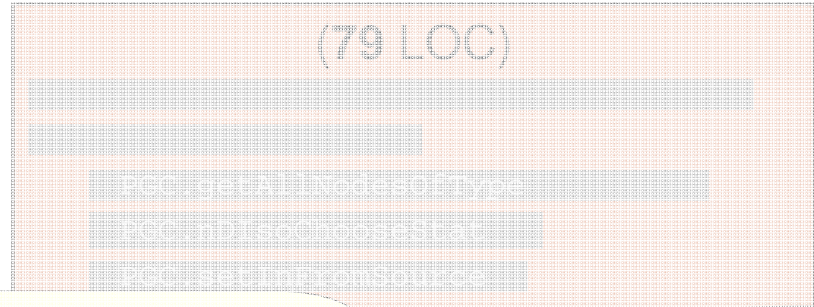


Solution Proposal

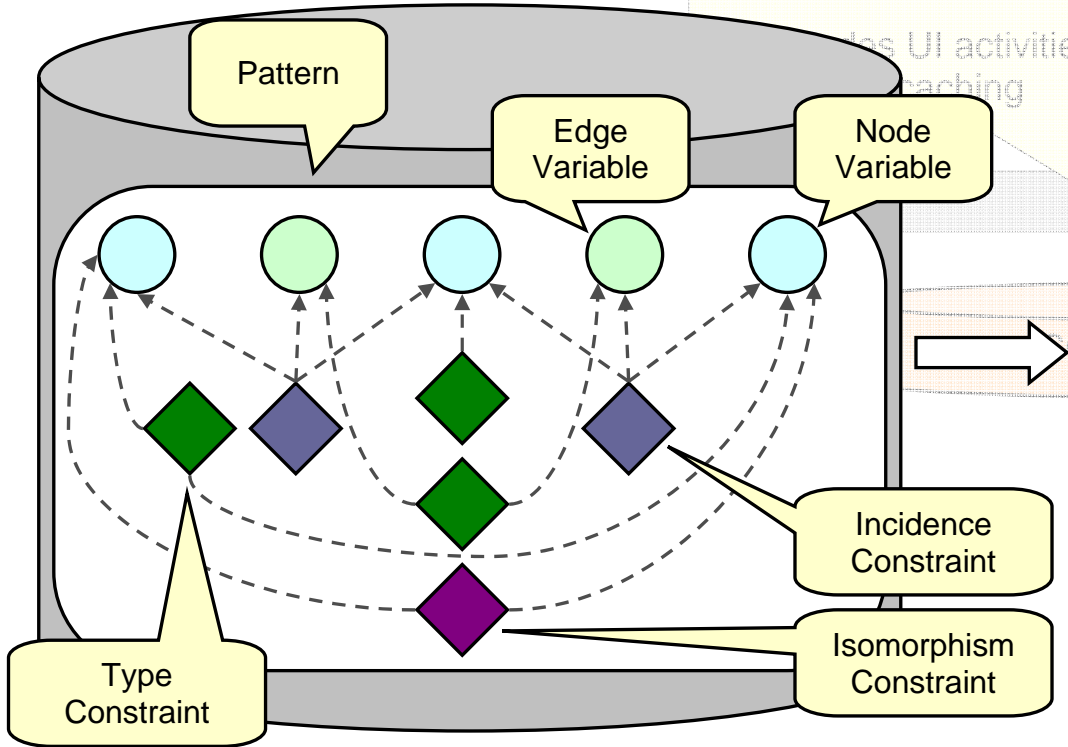
`query simpleQuery =`



`end;`



64 SQL Statements

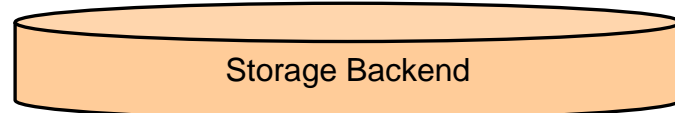


derived SQL Statement

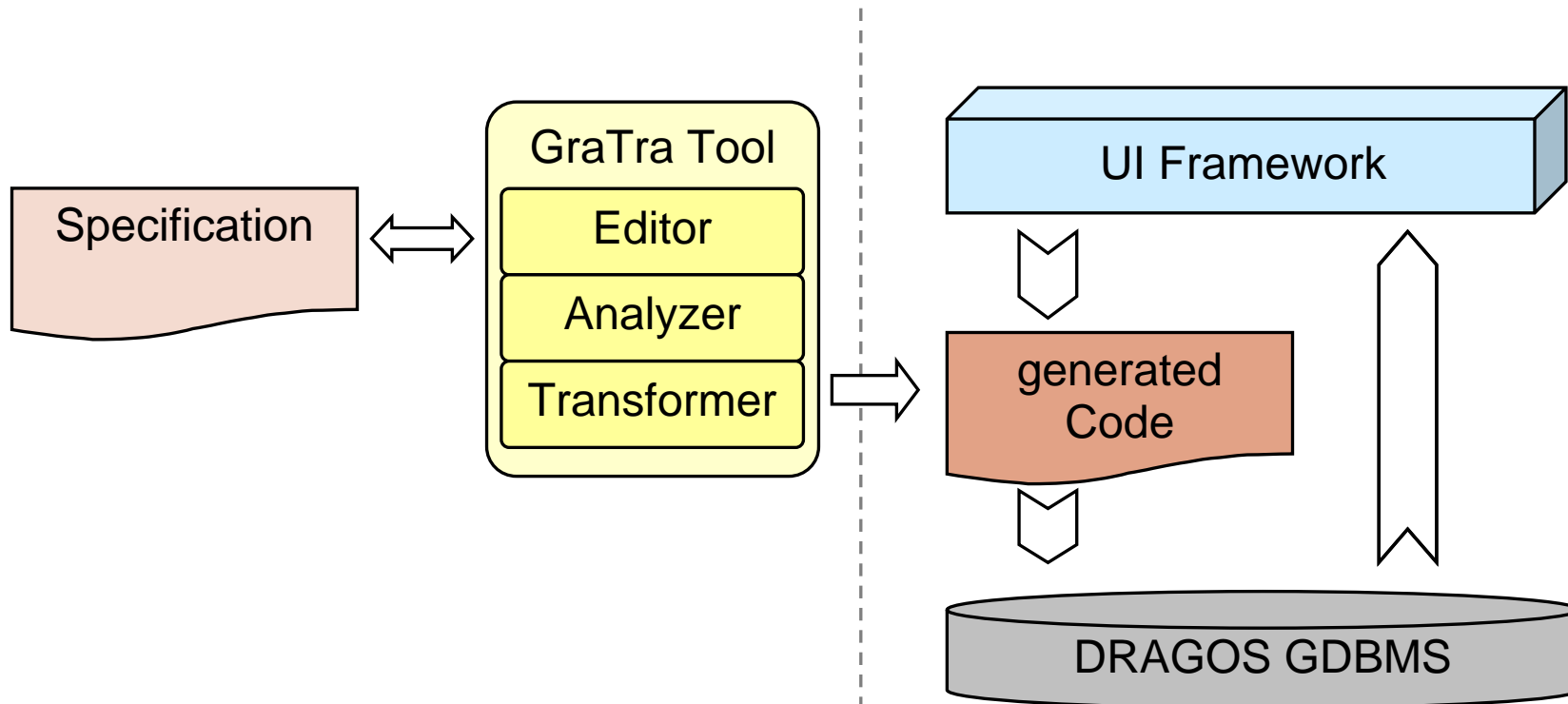
```

select a1.id, a2.id, b3.id,
       e1.id, e2.id, [...]
from Node a1, Node a2, Node a3,
      Edge e1, Edge e2
where a1.type=... [...] and
      e1.src=n1.id [...] and
      a1.id <> a2.id;
  
```

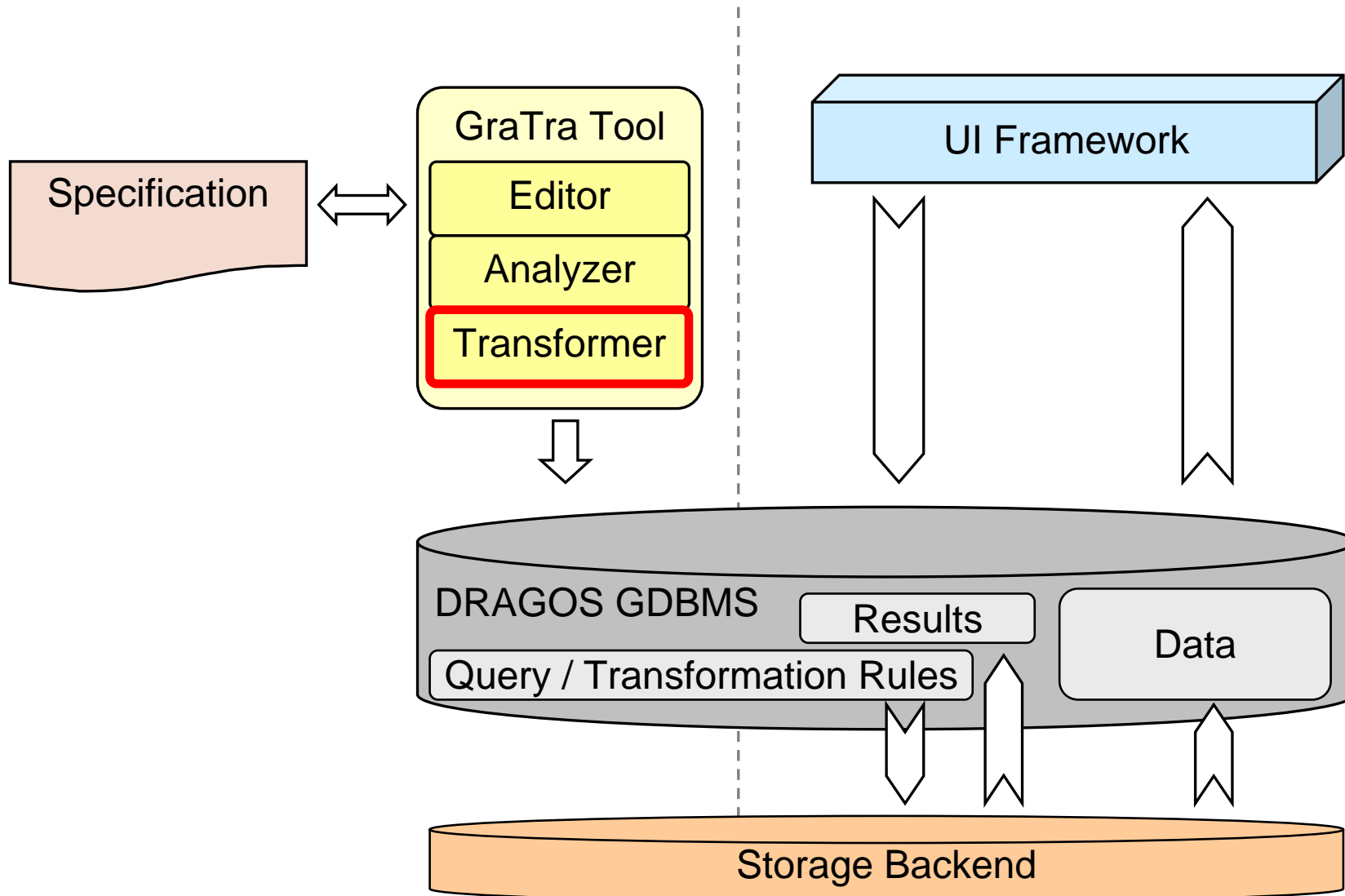
1 SQL Statement



Effect on GraTra toolchain



Effect on GraTra toolchain





Conclusion

- DRAGOS provides sub-optimal support for Graph Transformations
- Solution: offer query and transformation mechanism
- Project roadmap
 - » define core language
 - » provide generic and backend-specific implementations
 - » map existing languages to the DRAGOS language