

Optique™



Scalable End-user Access to Big Data

SIEMENS



fluidOps



UiO : **University of Oslo**



UNIVERSITÄT ZU LÜBECK



SAPIENZA
UNIVERSITÀ DI ROMA

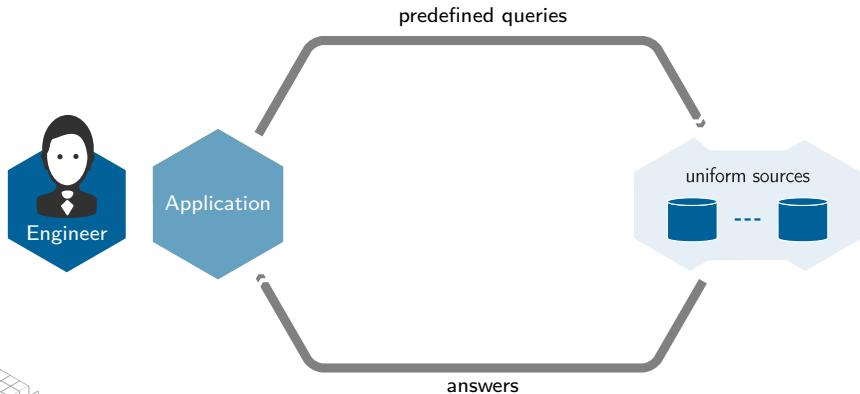


FREIE UNIVERSITÄT BOZEN
LIBERA UNIVERSITÀ DI BOLZANO
FREE UNIVERSITY OF BOZEN · BOLZANO



HELLENIC REPUBLIC
**National and Kapodistrian
University of Athens**

The Problem of **Data Access**





I need to find all rock samples where my Company had at least a 30% share of the licence at the time the sample was taken. I'm sure the information is there but there are so many concepts involved that I **can't find it in the application.**



I need all wellbores with a pore pressure of over 14ppg, but lower than 12ppg further down the hole. I **can't say this** to the application.



I need to find all rock samples for this oil field, including the ones in this Excel sheet from Dinoco. The application **doesn't know about** this data.

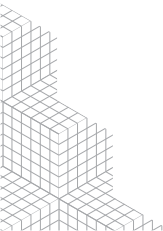
What then happens?



- *Where is this information stored, and what is it called?*
- *Can you hand-craft a query for my information need?*
- *Can you include data from this spreadsheet in the db?*



- May take **weeks** to respond
- Takes several years to master data stores *and* user needs





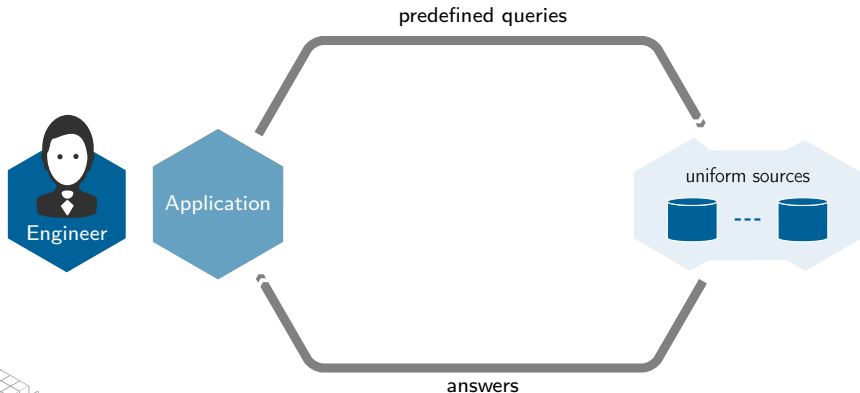
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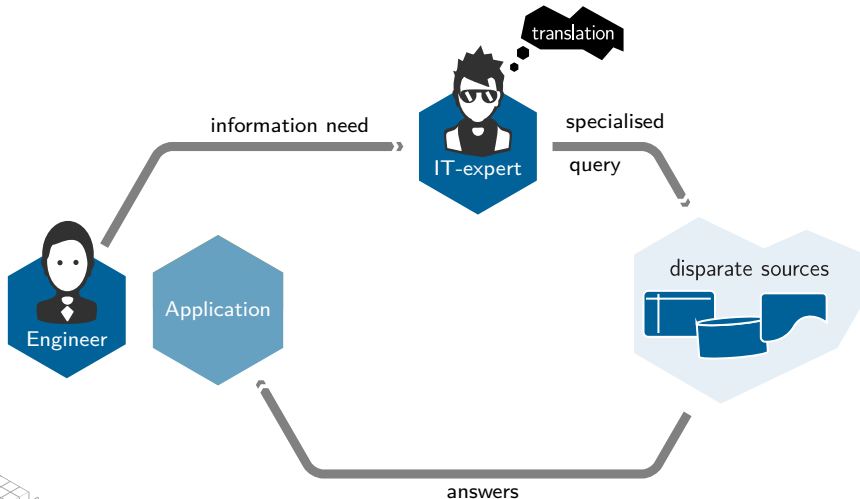
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30–70% of domain expert time spent looking for and assessing the quality of the data found

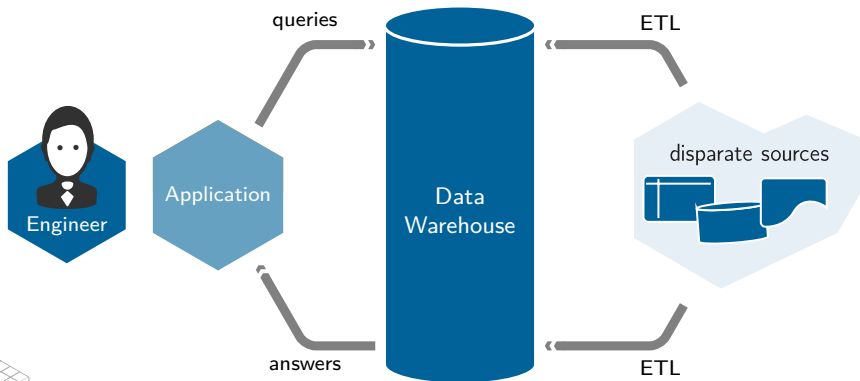
The Problem of **Data Access**



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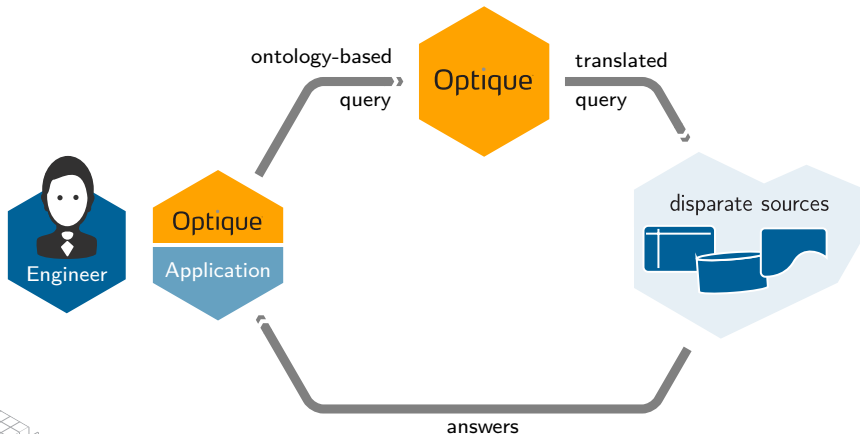


Data Access, with a **Data Warehouse** Optique



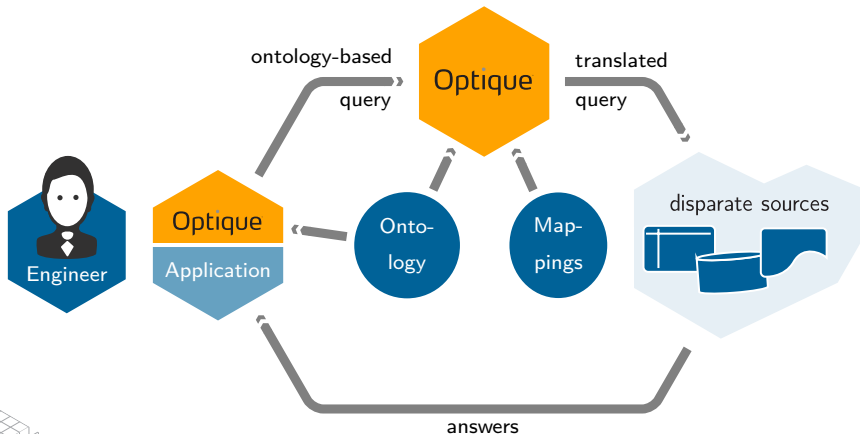
Data Access: The **Optique** Solution

Optique

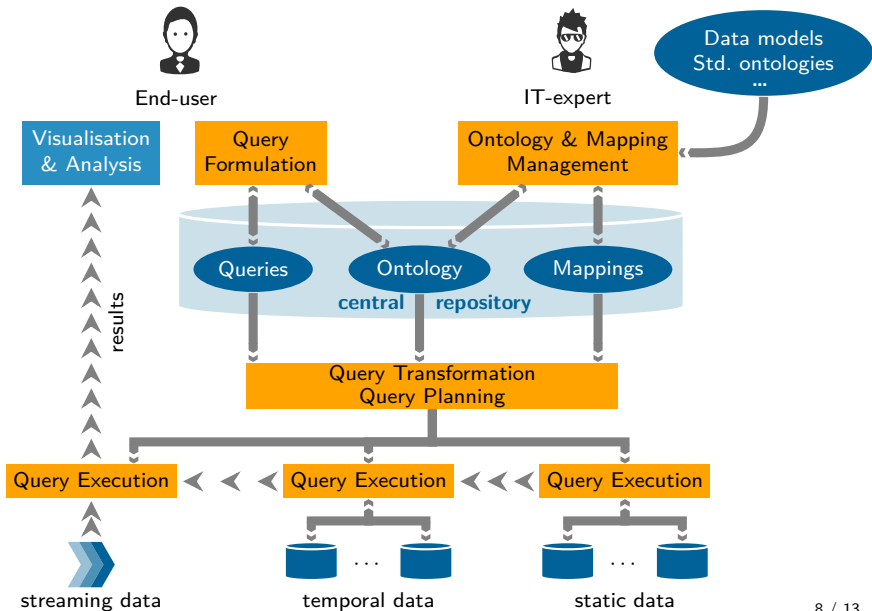


Data Access: The **Optique** Solution

Optique



Optique Architecture



Status (highlights)

All
components
integrated

1000 queries
on
1000 sensors
10TB/day

Online
training
module

Verified
usability

Querying 4TB
federated over
five databases

First paying
customer

Year 4: **Technology**

- Improving Information Integration
(static & streaming)
- Query-driven Ontology & Mapping Construction
- Backends: Access data in NoSQL stores
(MongoDB, Teradata,...)

Year 4: **Go To Market**

- ◆ First paying customer of Optique technology
- ◆ Intensive internal activity at Siemens AG
- ◆ Training material, led by DNV GL
- ◆ Applied for EU funding to improve tool suite quality (TRL 6/7 → TRL 8)

- ◆ SIRIUS centre for research based innovation
 - ◆ Optique style Big Data Access
 - ◆ Natural Language Processing
 - ◆ Cloud Computing
 - ◆ HPC hardware

- ◆ UiO Optique team takes part in BIGMED
 - ◆ Personalised medicine (cancer, monogenetic disease,...)
 - ◆ Genomics
 - ◆ Patient Records
 - ◆ Data Privacy critical



The Optique project ends
on 31 October 2016



The Story has only begun!