

Implementation of UML Schema in Relational Database

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STANDARD



USB

Defines a **common view**

Based on **experience**

Enhances creativity

Connects multiple devices

IBM, Intel, Microsoft

“Anyone” can implement it

ISO 19100

Manage geographic Information

ISO/TC 211

“Anyone” can implement it

PROJECT



MyProject

Has a **Data Model**

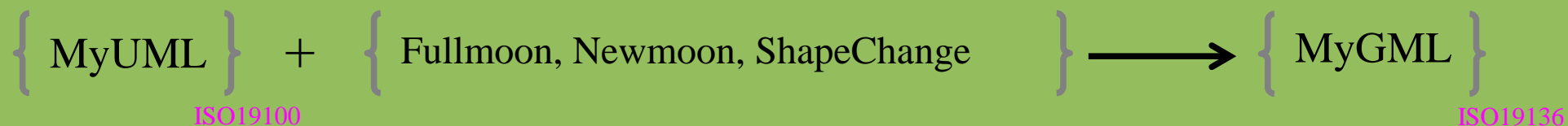
Has **Import / export procedure**

Has **persistence storage**

ISO19103 (UML profile), ISO19115, ISO19108, ...

ISO19136 (GML)

ISO191?? (RDBM, XML-DB, NoSQL, ..)



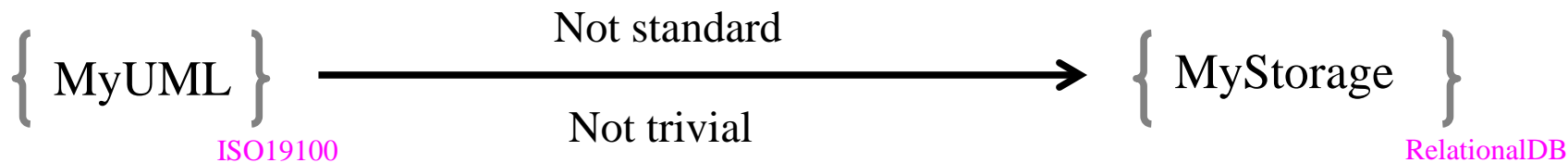
Relational Database

- Reliable tools
- Known querying language
- Long optimization history
- Transaction

(SQL)

(Postgresql, MySQL, Oracle, D





Class

Table



Inheritance
(single/multiple)

Proprietary solutions/
No solutions

Relations

Foreign Keys



Class loops

Circular reference

Constraint

Types, Functions

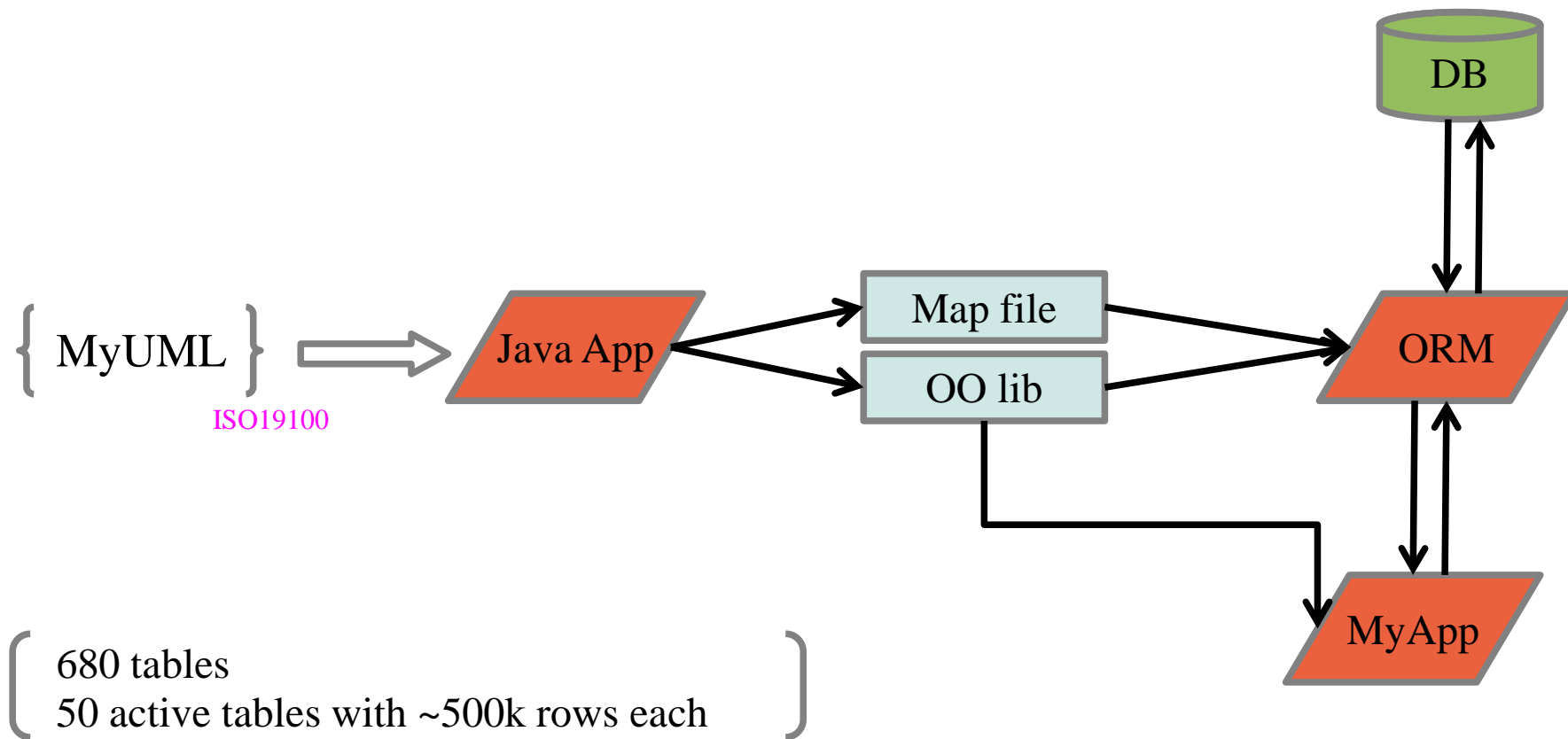


Property overriding

??



2) Inheritance to Composition



Conclusions

- A general **UML to RDBM** is feasible
- **Performance optimization** possible through:
 - DB tools (view, stored procedures)
 - Pre-mapping data types (i.e. TM_Instant family to SQL timestamp)

Thanks!
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Questions?