



Towards an MDA-Oriented UML Profile for Distribution

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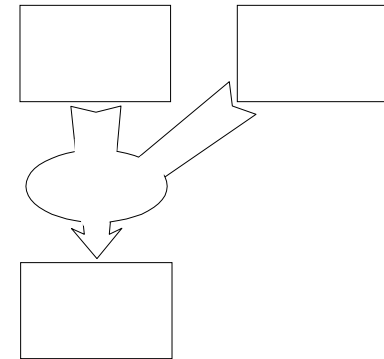
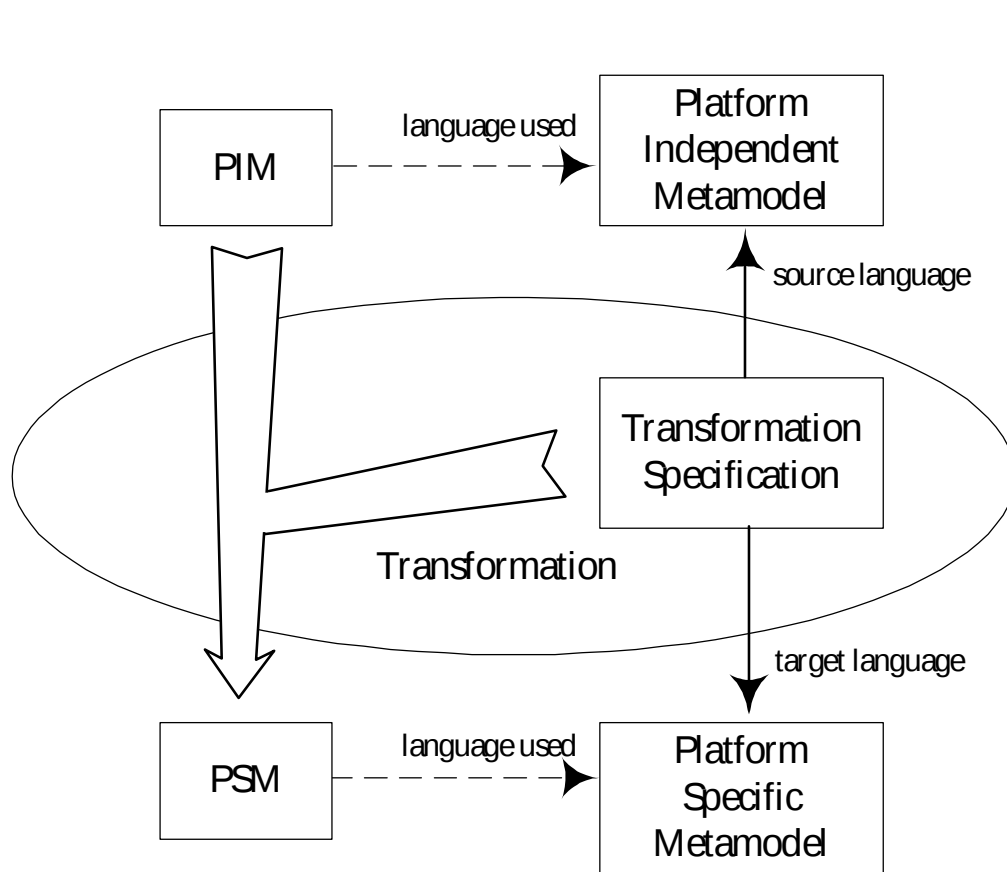
- Presentation out of an accepted paper for the next EDOC conference

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Contents

- On MDA and Platforms
- Layered Platforms
- Platform Integration
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MDA Overview : The Y Pattern



- Can be iterative
 - More than one platform
 - Refinement steps
 - CIM->PIM
- Many other possibilities

© Object Management Group, Inc.:*MDA Guide*, V 1.0.1. omg/03-06-01

Platform

Platform description model (PDM):

- Domain-specific **metamodel**
- Domain-specific **profile**
 - *Stereotypes, Tag Definitions and Constraints*

Platform and technology

- Technology-Independent PDM
vs. Technology-Dependent PDM
- Platforms **layers**

Platform integration

- Guiding the transformation: **“Wizard”** approach

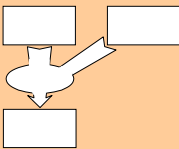
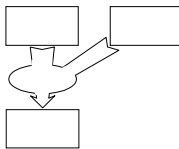
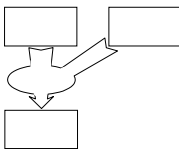
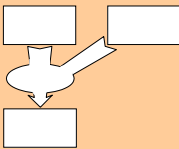
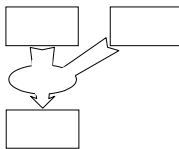
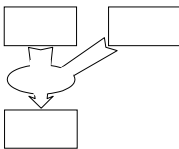
Platform: Middleware

- UML as a system modelling notation
- Profiles as a platform modelling notation

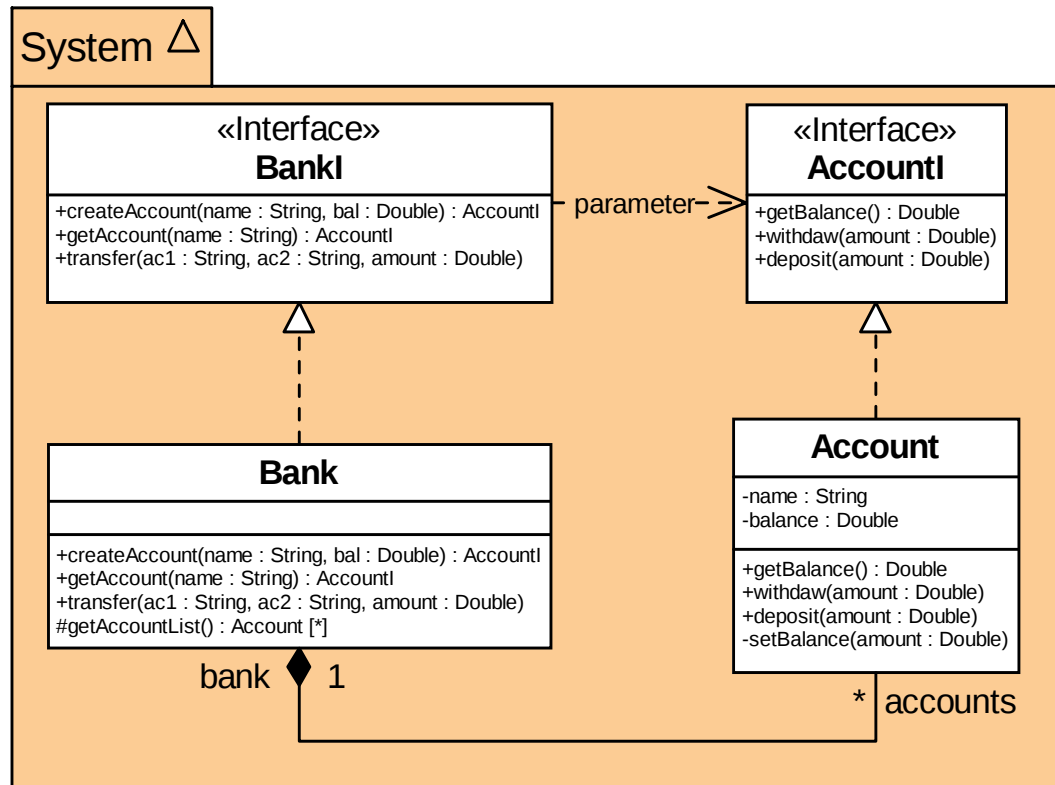
Distribution	Concurrency	Transactions
What is remotely available in the system, and how to communicate?	What are the behaviours that cannot execute together ?	What are atomic behaviours ?
How to reach distributed elements with CORBA ?	What are the locks to place in CORBA ?	What CORBA transactional element ?

Platform: Middleware

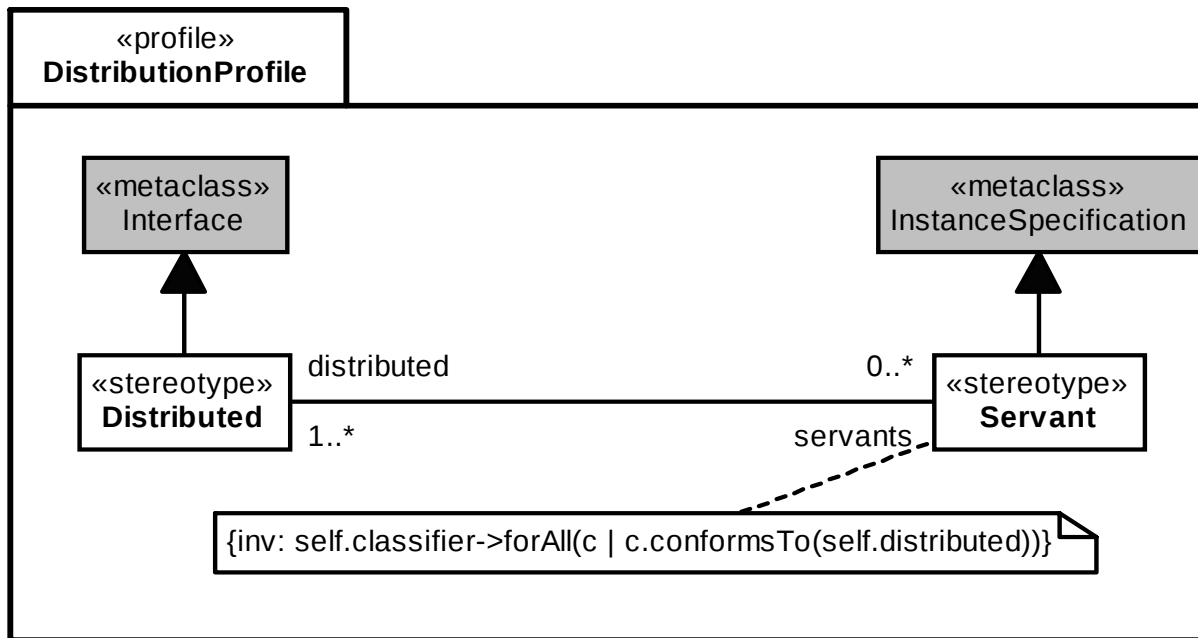
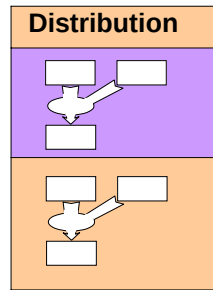
- UML as a system modelling notation
- Profiles as a platform modelling notation

Distribution	Concurrency	Transactions
		
		

An example

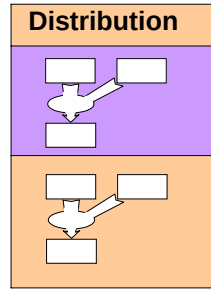


Distribution Profile

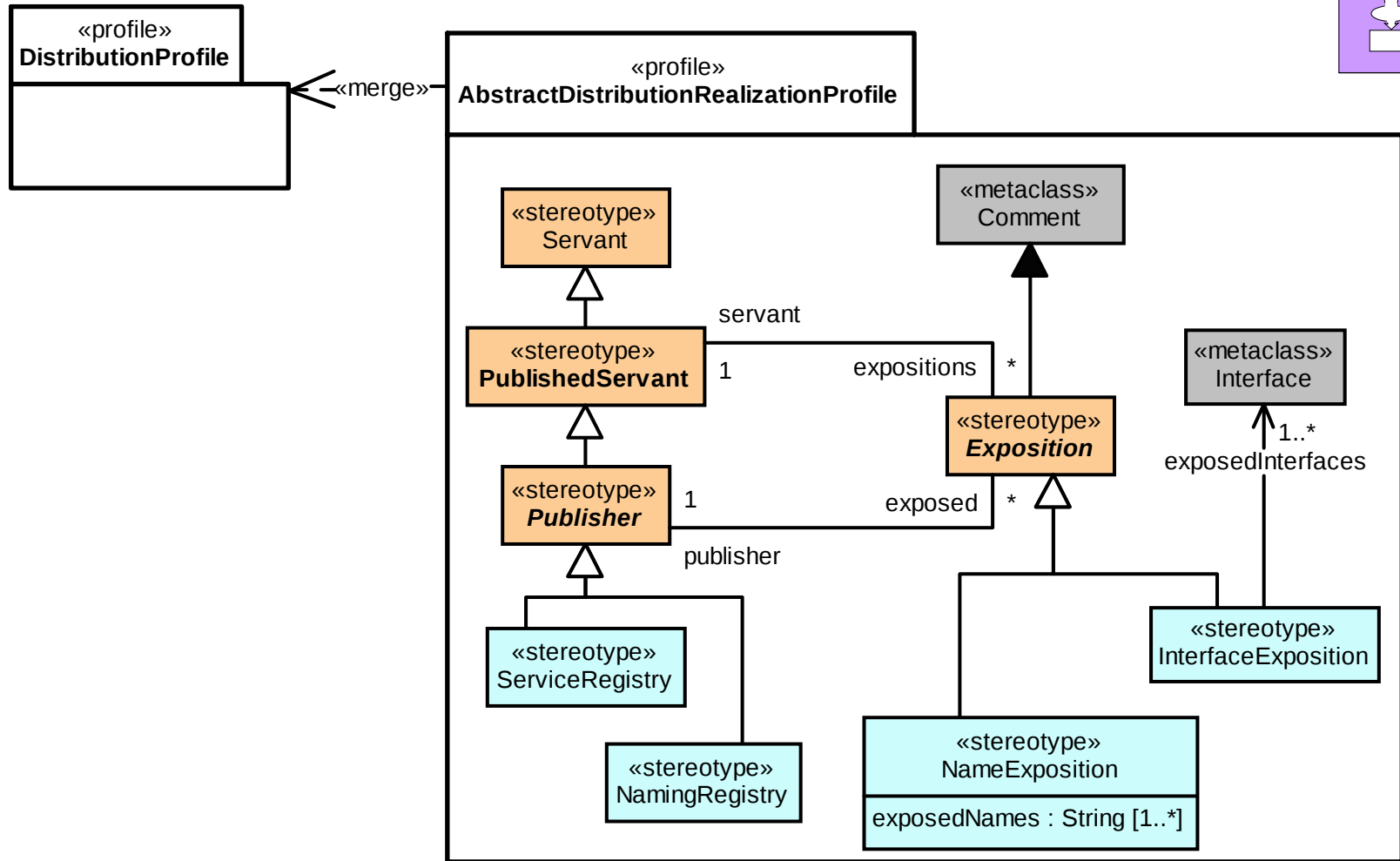
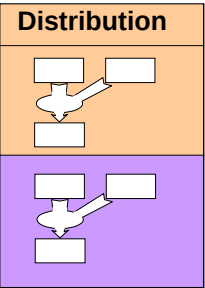


Distribution

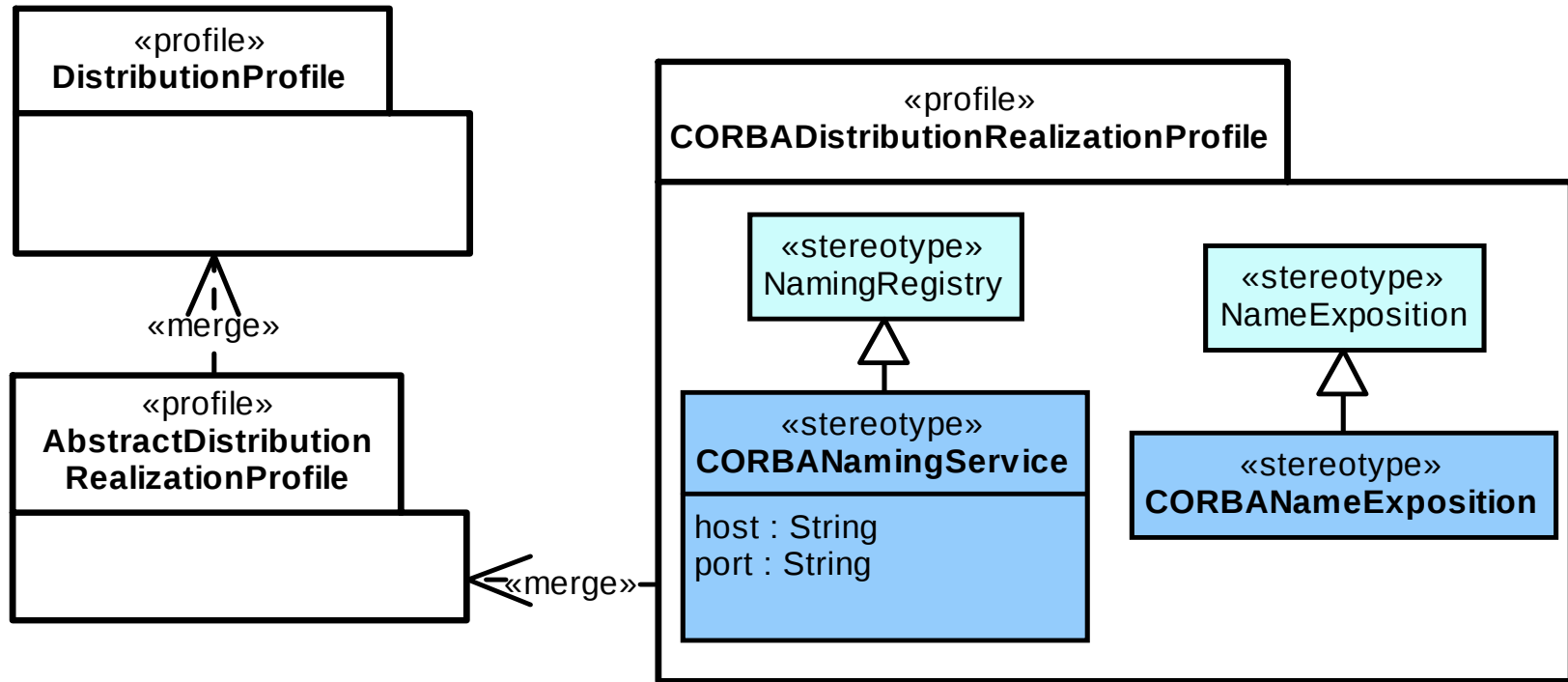
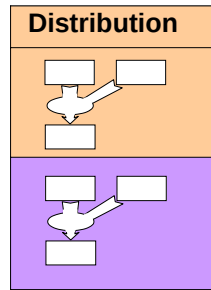
- Distribution**



Abstract Distribution Realization



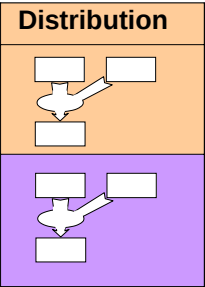
CORBA Distribution Realization



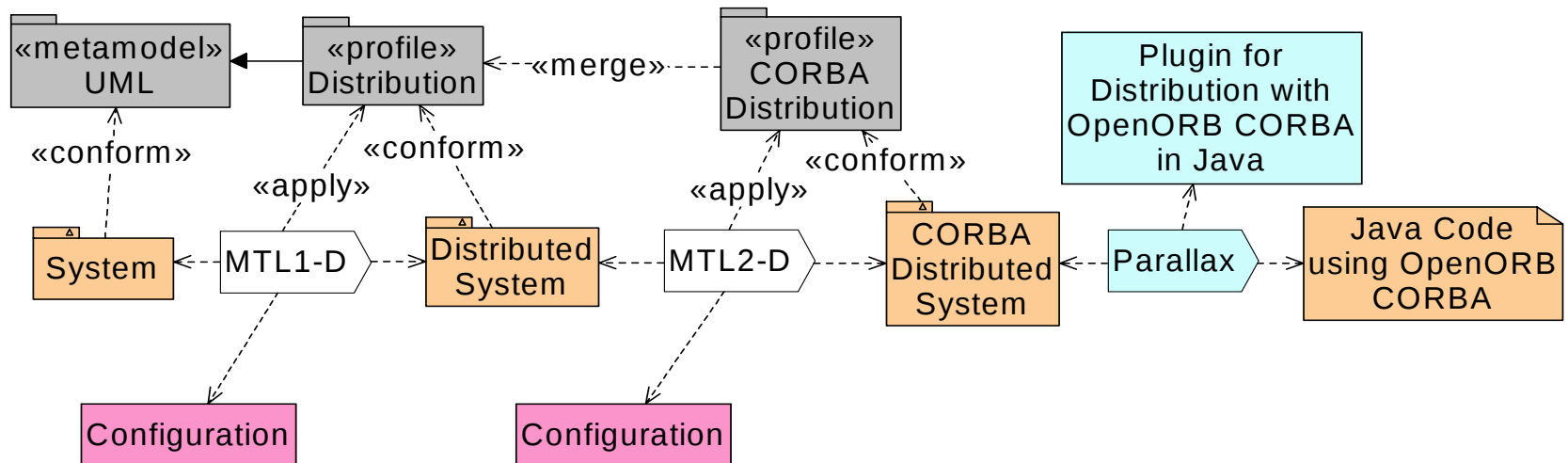
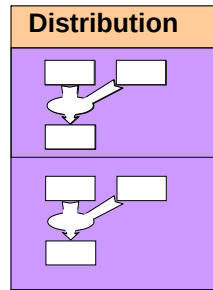
Distribution

The diagram illustrates the distribution of a variable across two categories: 'Distribution' and 'Control'. Each category has a box for 'Distribution' and a box for 'Control', with arrows indicating the flow of information.

- ## Distribution
-
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Platform integration



Conclusion

- Platform separated into Concerns
- Concerns refined into Technologies
- Final support: extensible code generator
- “Wizard” model transformation for integrating platforms
- TBD:
 - More case studies
 - More technologies
 - More concerns
 - More platforms
 - More platform modelling languages
 - More system modelling languages