

Data Warehouse Modeling Industry Models

Modeling Techniques come from Mars and
Industry Models come from Venus?

Maarten Ketelaars

Agenda

Introduction

High level architecture

Technical Aspects

Functional Aspects

Overview of Industry Models (Including Mapping on High level architecture)

IBM

Teradata

SAS

Oracle

Technical aspects of Industry Models

Best Practices



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Technical aspects of Industry Models

Best Practices





Maarten Ketelaars
Managing Consultant

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Professional Background and Skills

- Business Intelligence Professional at Nippur, responsible for all business in the region Arnhem / Apeldoorn.
- Experienced in Data Integration, Data Migration and Business Intelligence.
- Focuses on consulting and implementation projects.
- Training and coaching experience.
- Holds a Master of Computer Science from University of Eindhoven.
 - **Skill Set**
 - Data modeling: Data Vault, Dimensional Model, Industry models (IIW & FS-LDM, DDS)
 - Data architecture
 - BI Project Management

Employers

Nippur (2012 ---)
Managing Consultant

Accenture Technology Solutions (2007-2012)
BI Manager

DNV - CIBIT (2005-2007)
Senior Advisor / Trainer

SNS Bank (2001-2005)
Senior Data Architect

CMG (1996-2001)
BI Consultant

Economic Institute Tilburg (1993-1996)
SAS Developer

NIPPUR
business intelligence

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SAS - DDS
(At Insurance company)



Implemented as specified

employers

Accenture Technology Solutions (2007-2012)

BI Manager

Professional Background and Skills

- Business Intelligence Professional at Nippur, responsible for all

IBM - IIW
(At Insurance company)



Implemented as specified

ation and Business

projects.

- Holds a Master of Computer Science from University of Eindhoven.

Skill Set

Teradata - FS/LDM



Used as reference model,
Implemented with Data Vault
technique

onal Model,
DS)

DNV - CIBIT (2005-

Senior Advisor / Trainer

**Oracle -
OBIEE Apps**
(At Telco company)



Investigated for feasibility

SNS Bank (2001-200

Senior Data Architect

CMG (1996-2001)

BI Consultant

Economic In

SAS Develop

IBM - FSDM / BDWM



Used as reference model,
especially for RT Integration

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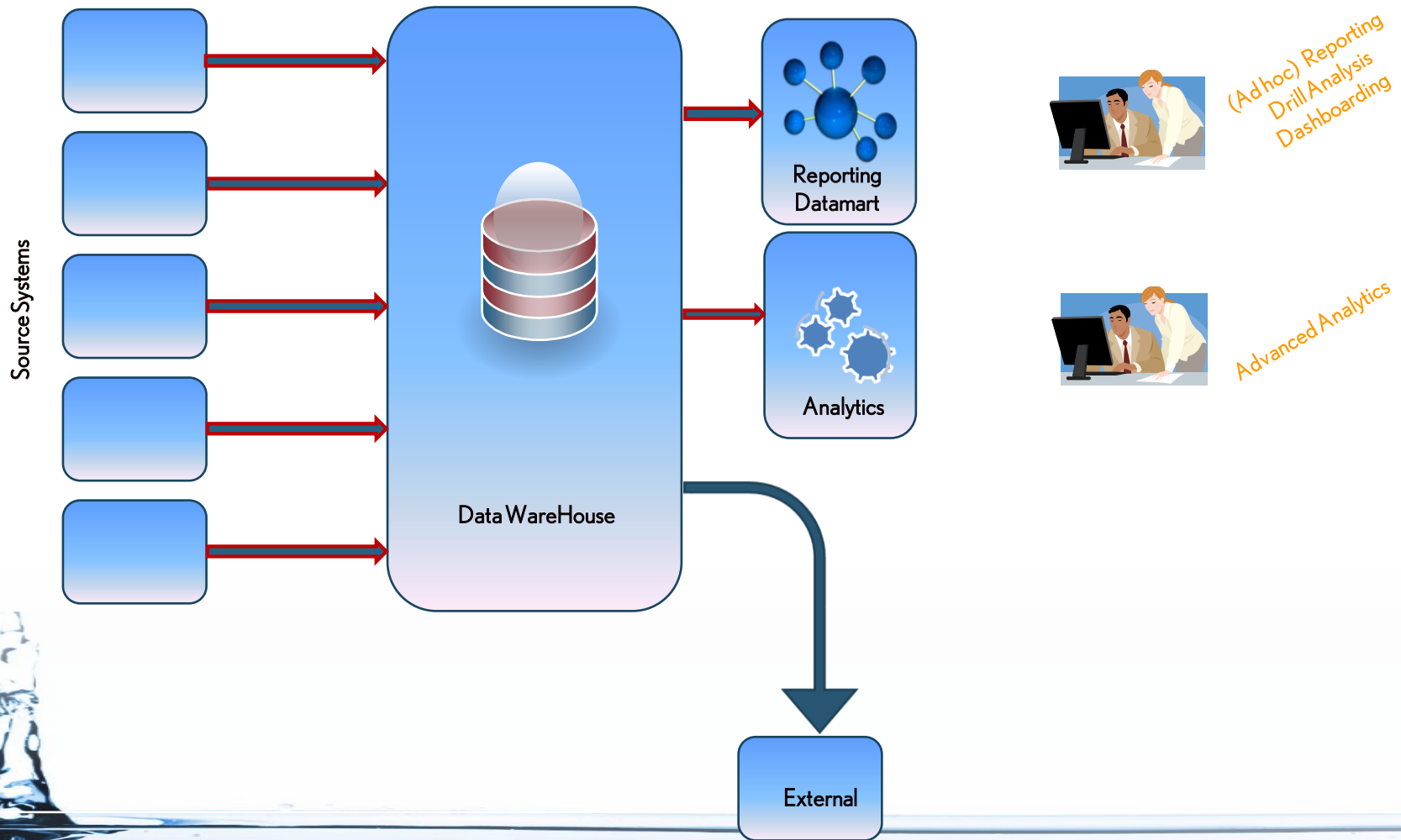
Technical aspects of Industry Models

Best Practices



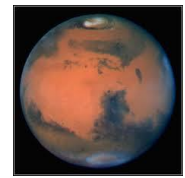
High level architecture

Overview of main functional components



High level architecture

Technical perspective



Modeling techniques focus on HOW the Data Warehouse & Data Mart are modeled

Technical aspects of Data Warehouse models

History handling

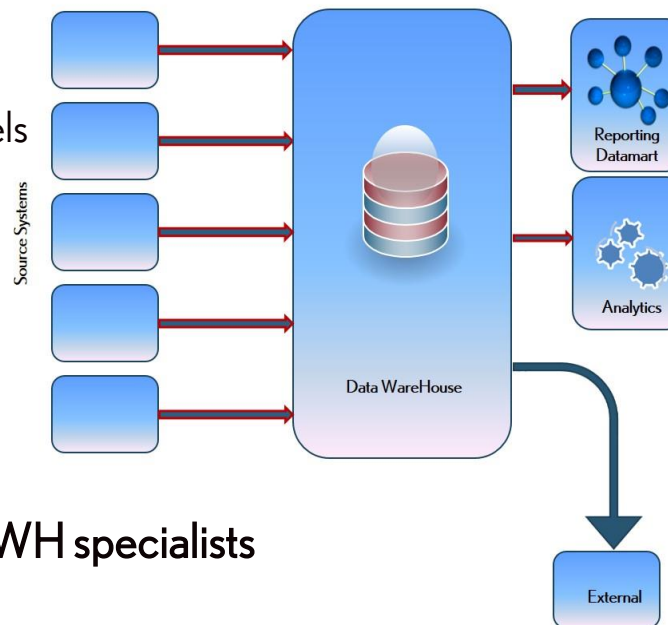
Surrogate key generation

Linking between entities

.....

Attention for automatic generation of models

Focus on automation of (ETL-)processes



*(Ad hoc) Reporting
Drill Analysis
Dashboarding*



Advanced Analytics

Often initiated by Data Modeling & DWH specialists



High level architecture

Functional perspective



Industry Models focus on **WHAT** content must be captured by the Data Warehouse & Data Mart

Functional aspects of Data Warehouse models

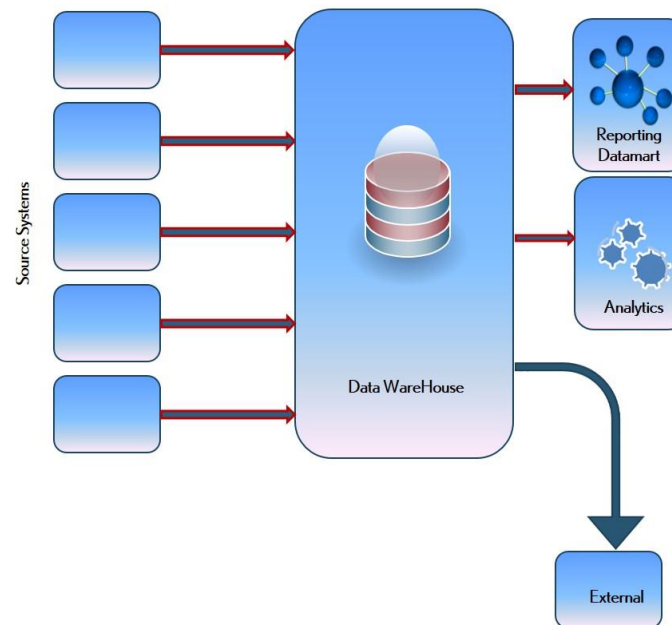
Which entities must be in the data warehouse

Specific functional areas covered

Usage of the information

.....

Focus on definition of business terms
pre-defined entities



Often initiated by Business architects



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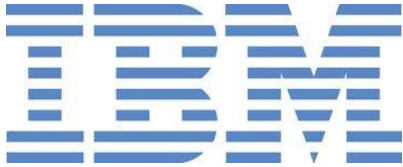
Oracle

Technical aspects of Industry Models

Best Practices



Overview of Industry Models



[IBM Banking Data Warehouse](#)

[IBM Banking Process and Service Models](#)

[IBM Insurance Information Warehouse](#)

[IBM Insurance Process and Service Models](#)

[IBM Health Plan Data Model](#)

[IBM Retail Data Warehouse](#)

[IBM Telecommunications Data Warehouse](#)

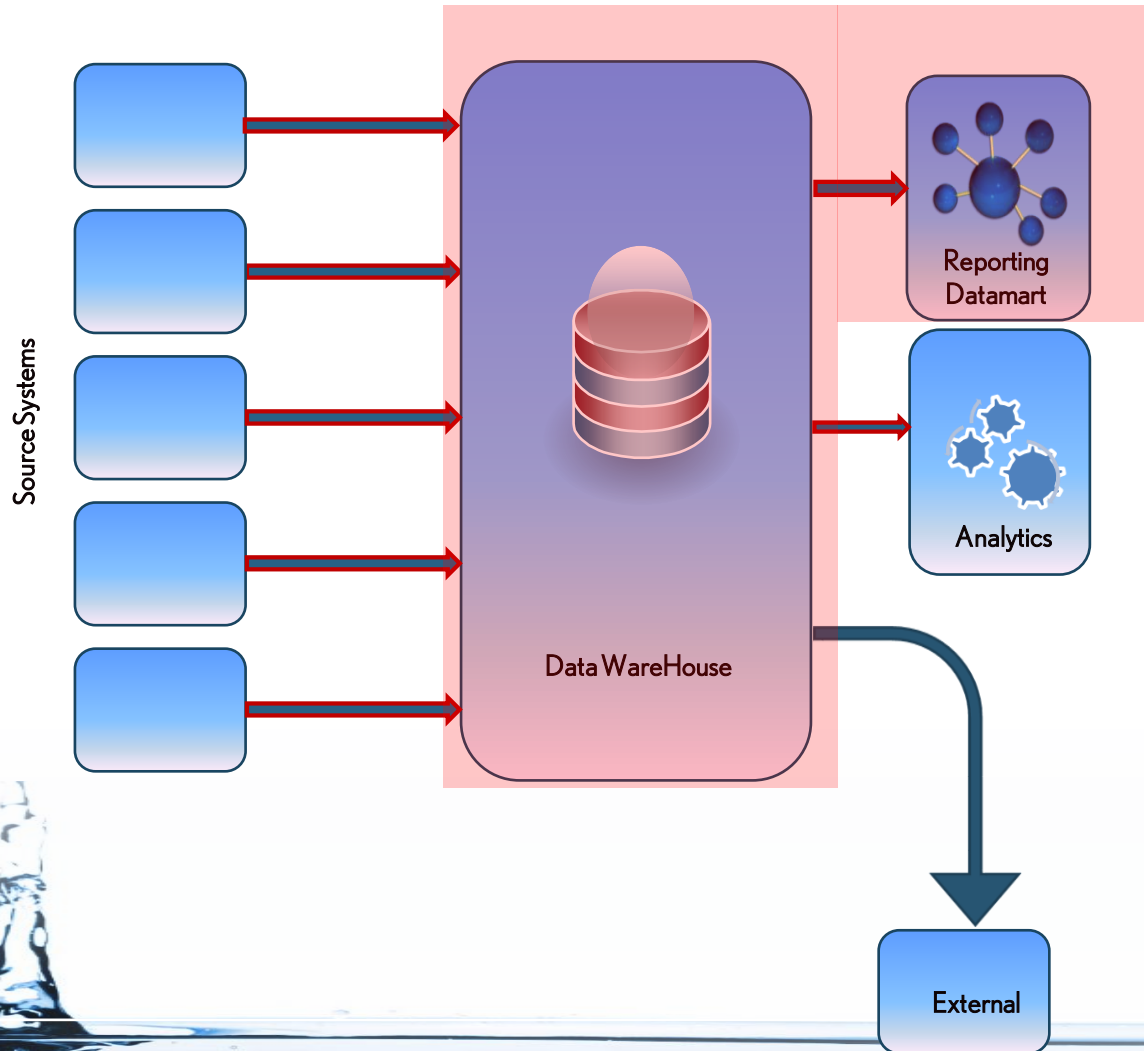
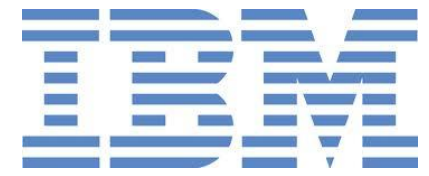
[IBM Financial Markets Data Warehouse](#)

[IBM Banking and Financial Markets Data Warehouse](#)



High level architecture

Mapping IIW on HLA

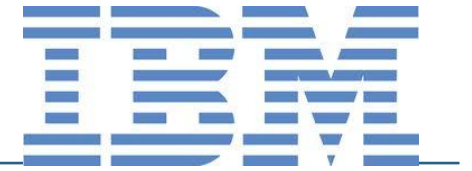


Reporting & Analysis



Analytics

IBM - IIW



IIW is an enterprise-wide data warehousing solution for the insurance industry

IIW is engineered to consolidate data from disparate systems

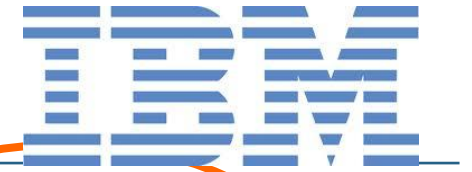
Some characteristics

- Predefined data models & templates
- Based on core concepts
- Coverage from requirements to database design
- Implements traceability
- Supports iterative development approach



Core concepts (packages)

The foundation models cover all insurance concepts



after 6 pm



Contact preference



Communication



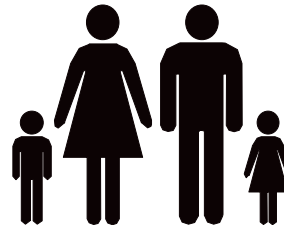
Contact Point



Legal Action



Place



Party



Claim



Agreement



Activity



Event



Money Provision



Physical Object



Registration



Product



Standard Text



Financial Transaction



Authorization



Fund



Account

Overview of Industry Models

TERADATA

[Teradata Communications Logical Data Model](#)

[Teradata Financial Services Logical Data Model](#)

[Teradata Healthcare Logical Data Model](#)

[Teradata Insurance Logical Data Model](#)

[Teradata Manufacturing Logical Data Model](#)

[Teradata Media Logical Data Model](#)

[Teradata Retail Logical Data Model](#)

[Teradata Transportation and Logistics Logical Data Model](#)

[Teradata Travel and Hospitality Industry Logical Data Model](#)

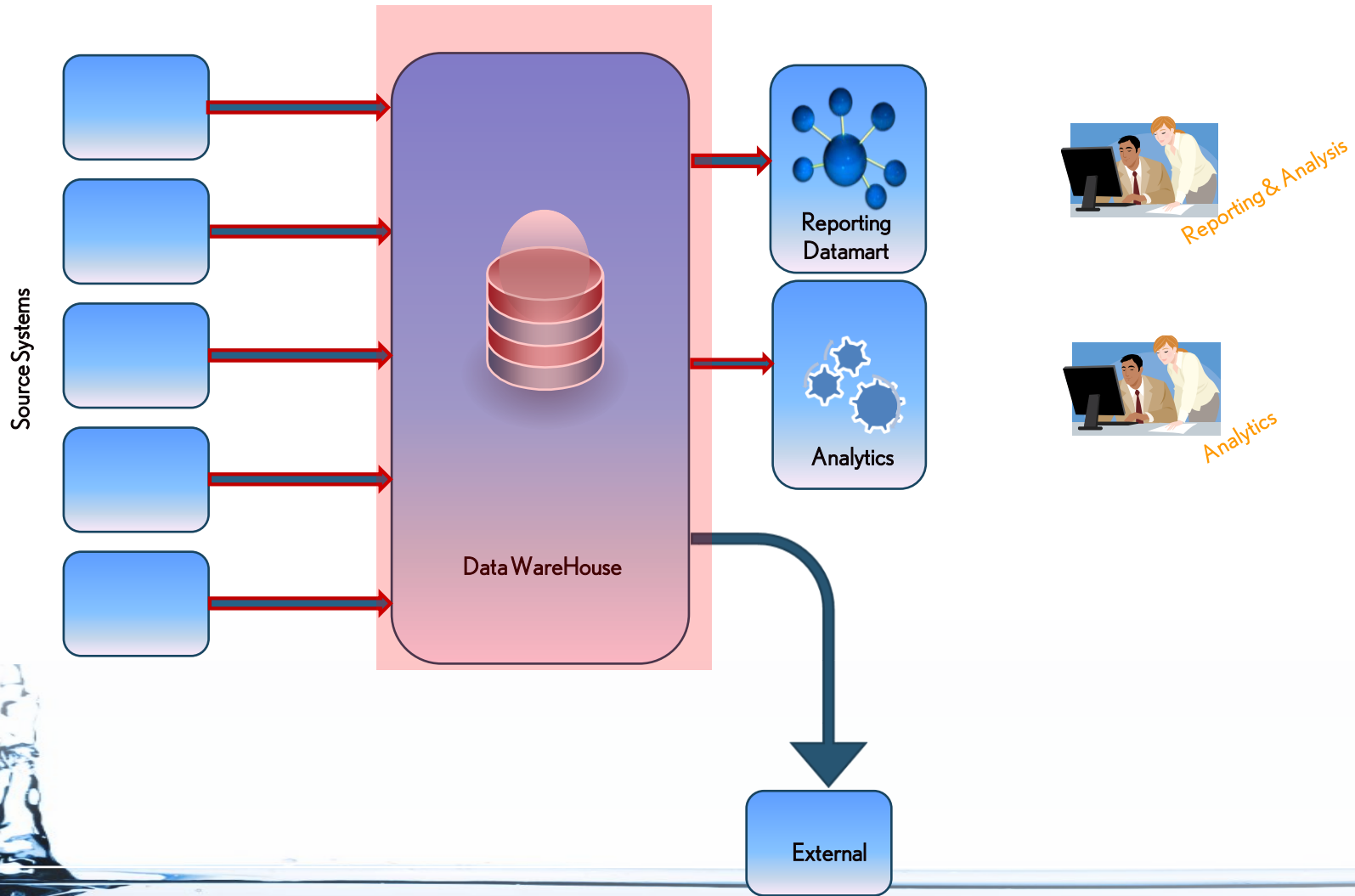
[Teradata Utilities Logical Data Model](#)



High level architecture

Overview of main functional components

TERADATA



Overview of Industry Models



Advanced Analytics (in combination with Detailed Data Store).

Risk Management for Insurance

Anti-money Laundering in Financial Services

Expediting drugs in Life Sciences

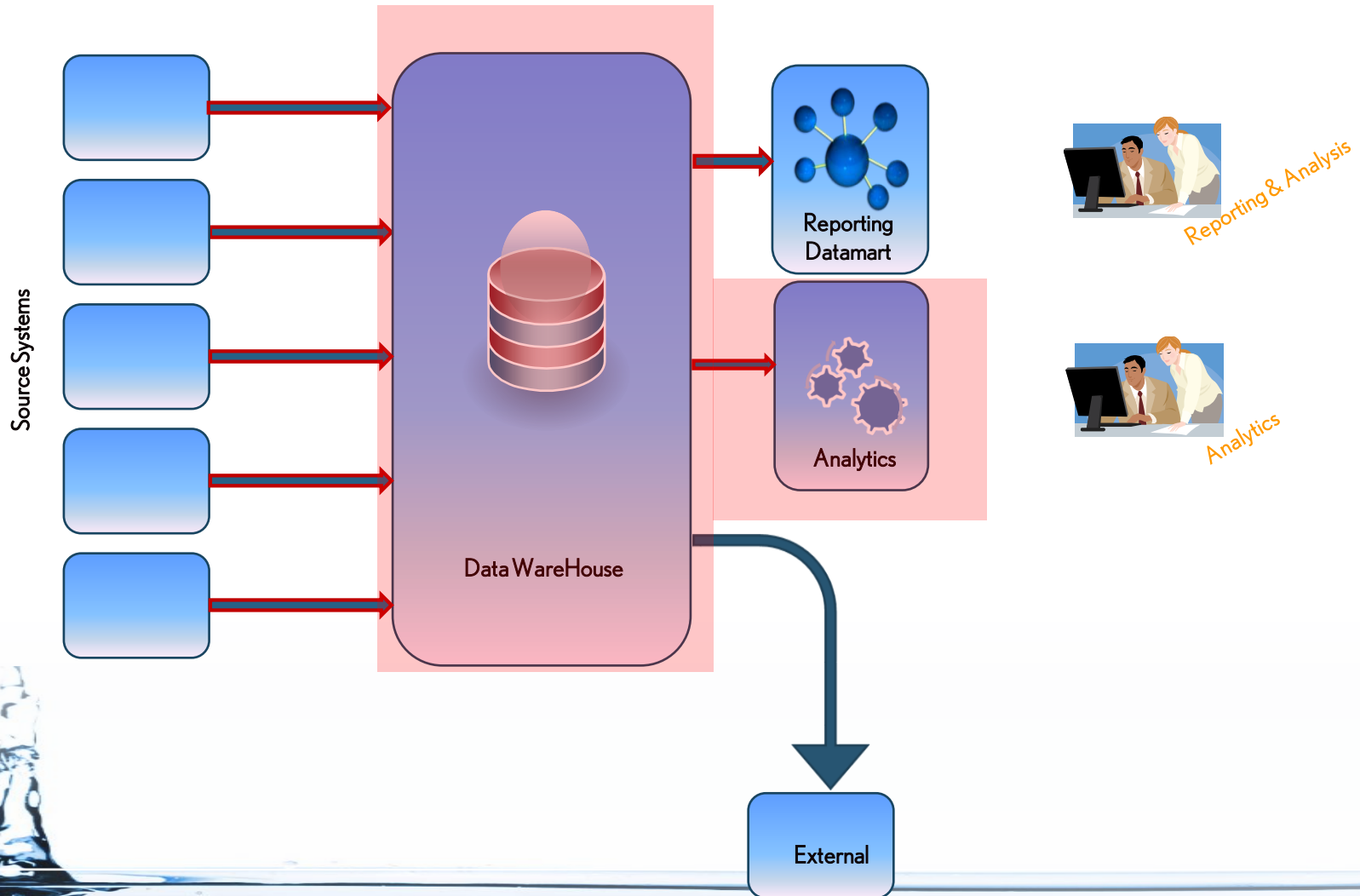
Cross-sell opportunities in retail

Producing demand-driven forecasts in manufacturing



High level architecture

Overview of main functional components



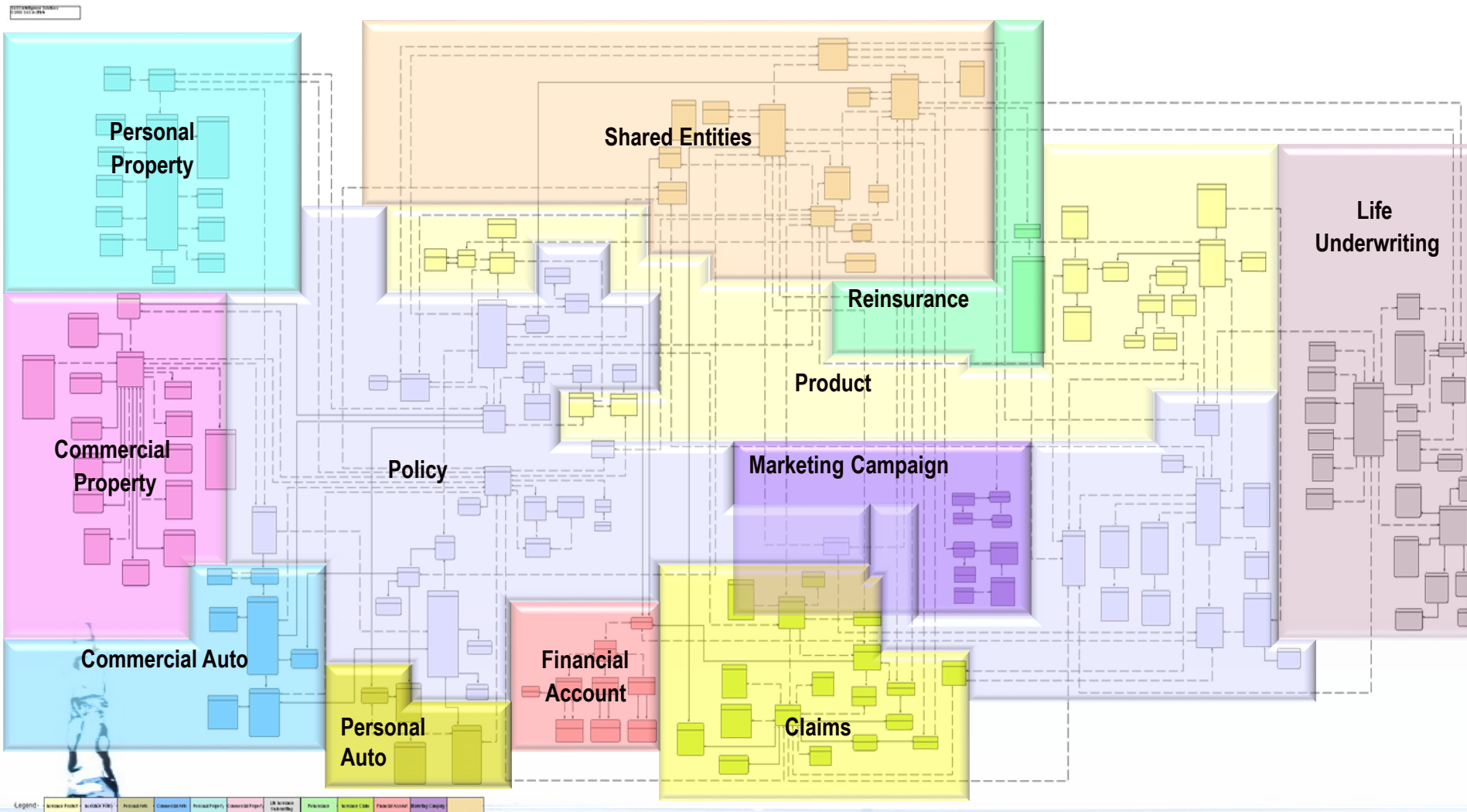
Insurance Analytics Architecture (IAA)



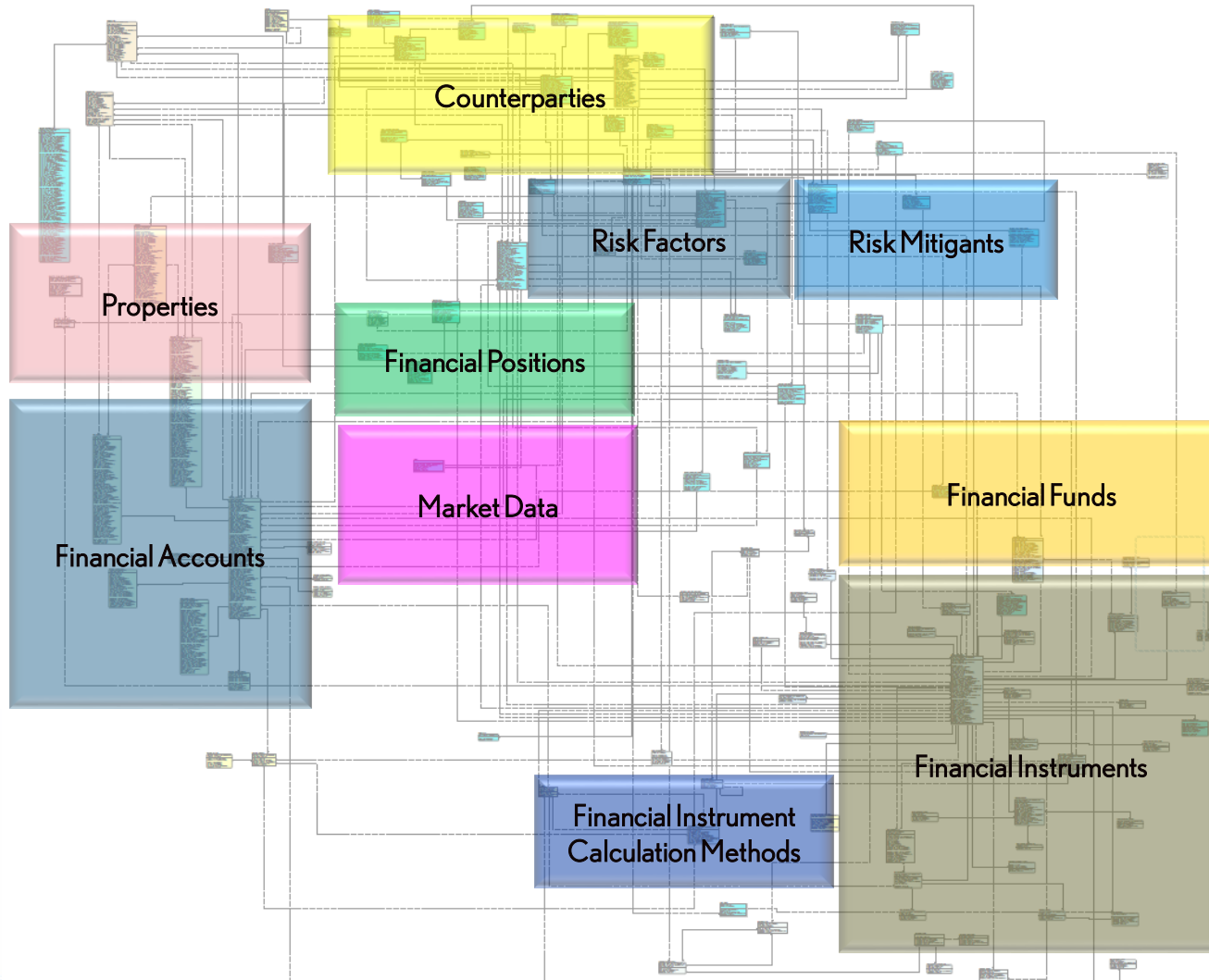
- Insurance Detail Data Store (DDS)
 - Subject model
 - High-level, subject area diagram.
 - Logical model
 - Mid-level, business structure of subjects, entities & relationships.
 - Physical model
 - Reflects actual implementation in terms of database and storage system, optimized for performance objectives, etc.
 - Model Metadata
 - Connecting the data model to source data, ETL processes and data marts



Data Categories in the DDS (part 1)



Data Categories in the DDS (part 2)



Overview of Industry Models

ORACLE®

Oracle Apps

Procurement and Spend Analytics

Financial Analytics

Supply Chain and Order Management Analytics

Human Resources Analytics

Sales Analytics

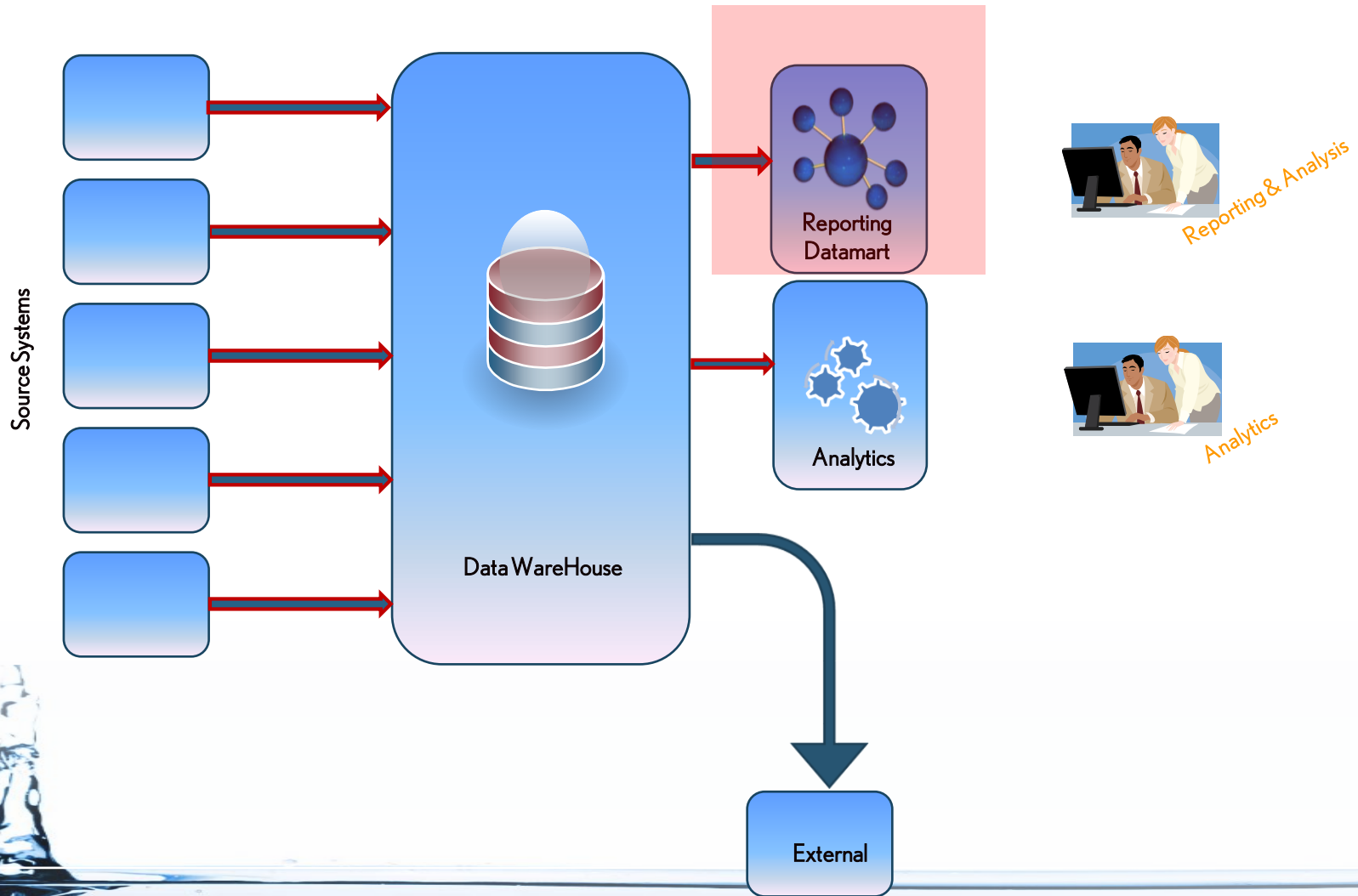
Contact Center Telephony Analytics



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ORACLE



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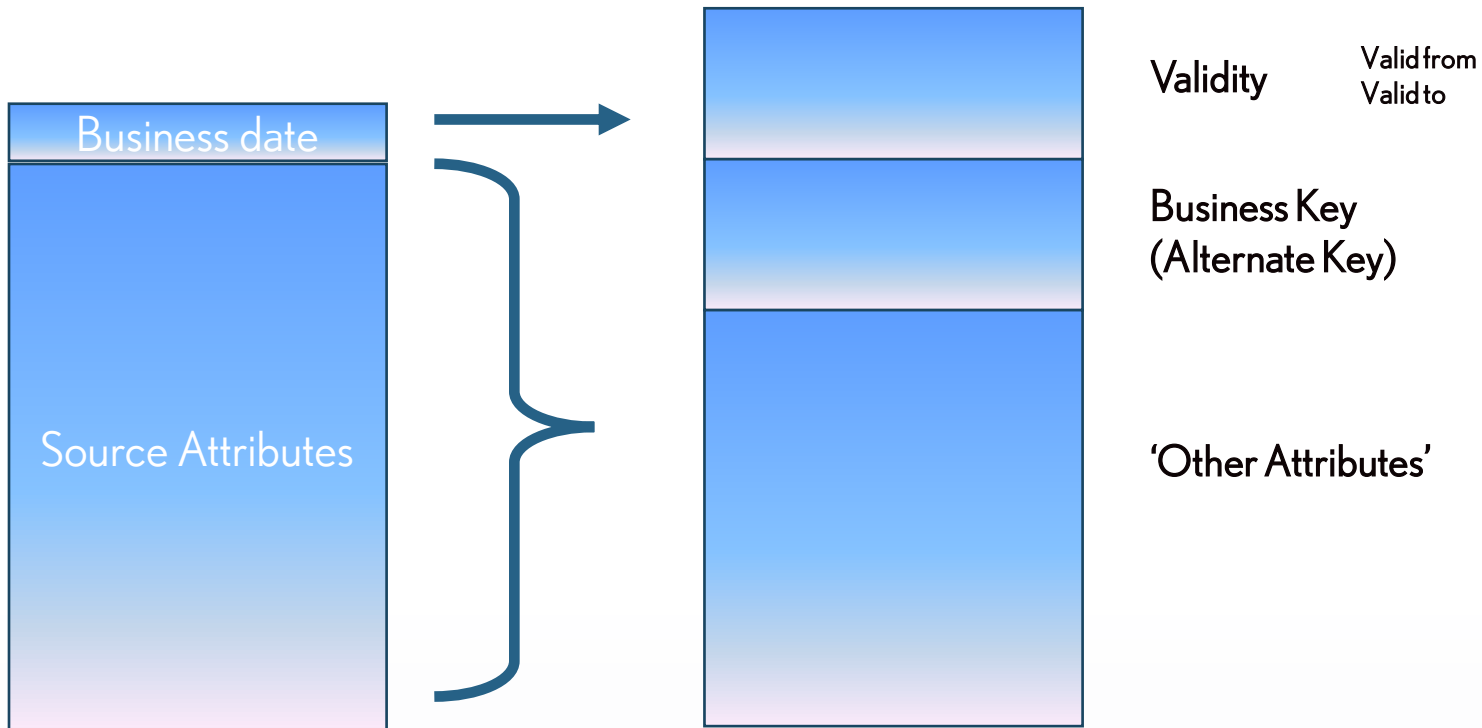
Oracle

Technical aspects of Industry Models

Best Practices



Technology concepts - Entity information



Technology concepts - Entity information



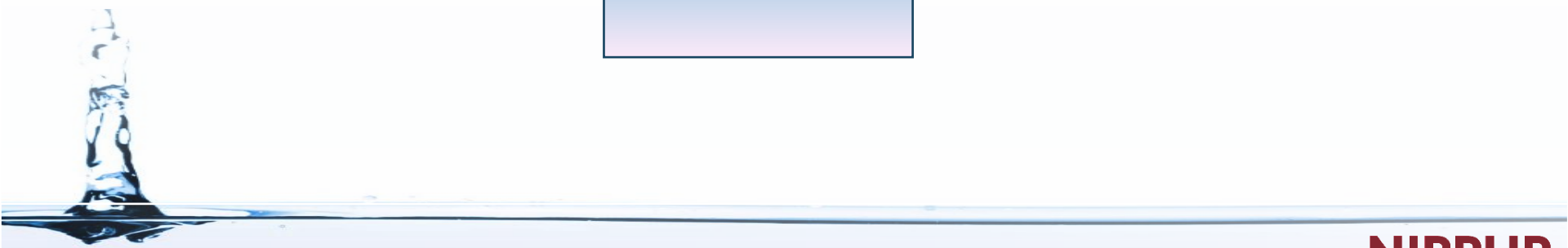
Generated key (Identity)

Validity

Validfrom
Validto

Business Key
(Alternate Key)

'Other Attributes'



Technology concepts - Entity information



Generated key (Version)

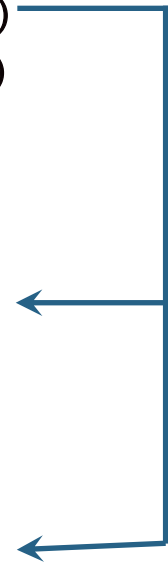
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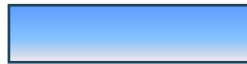
'Other Attributes'



Technology concepts – Data Vault

DV-‘Hub’

DV-‘Satellite’



Generated key (Version)

Generated key (Identity)

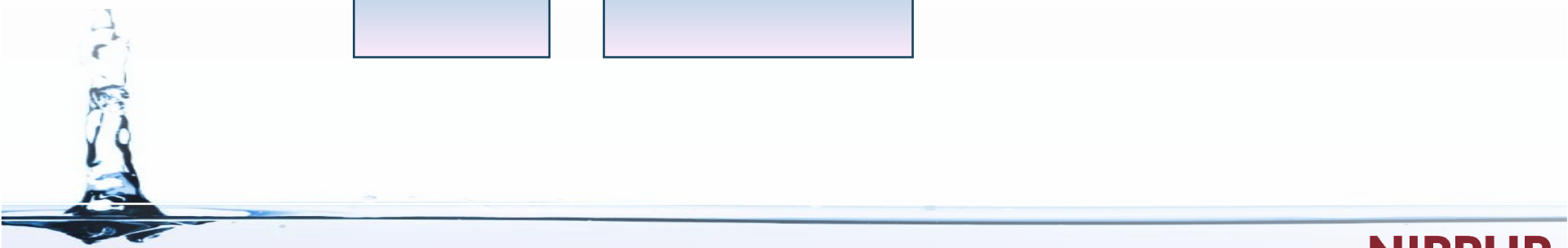
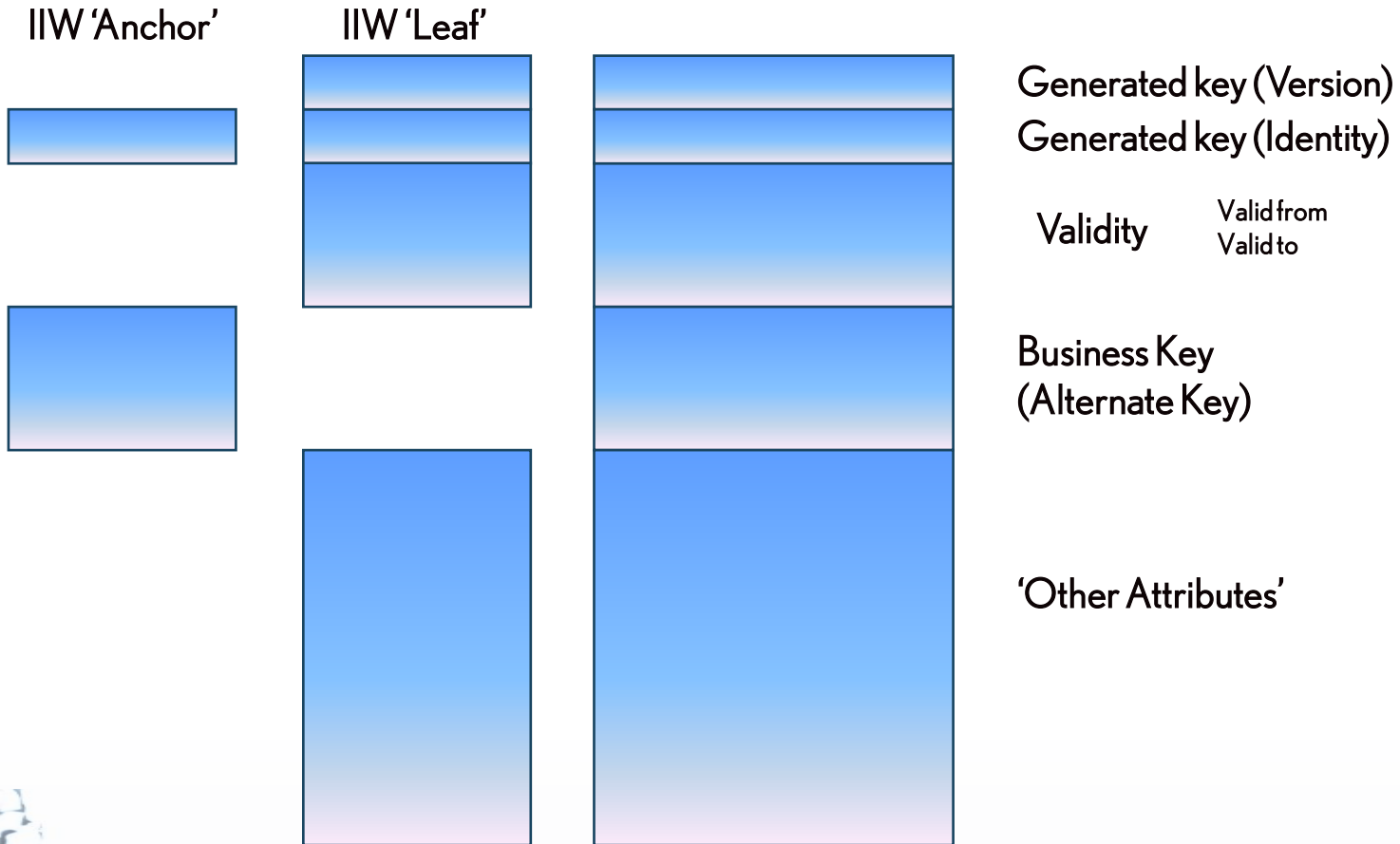
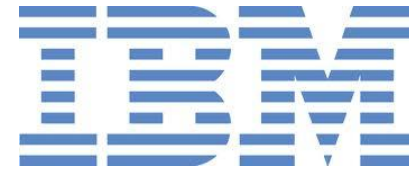
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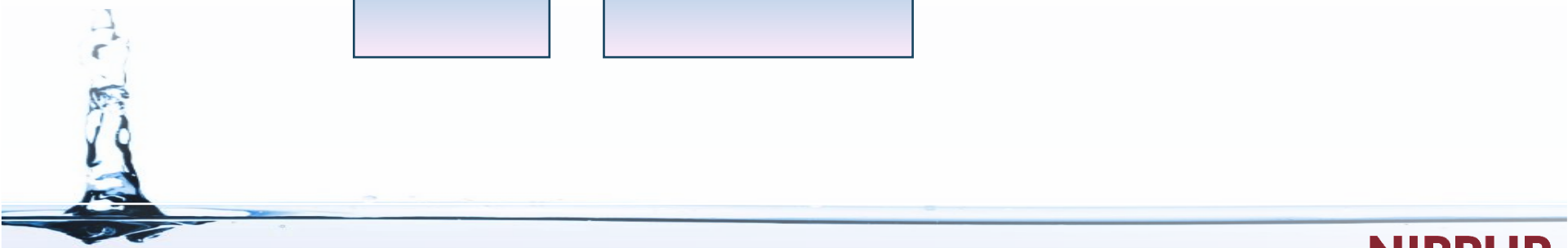
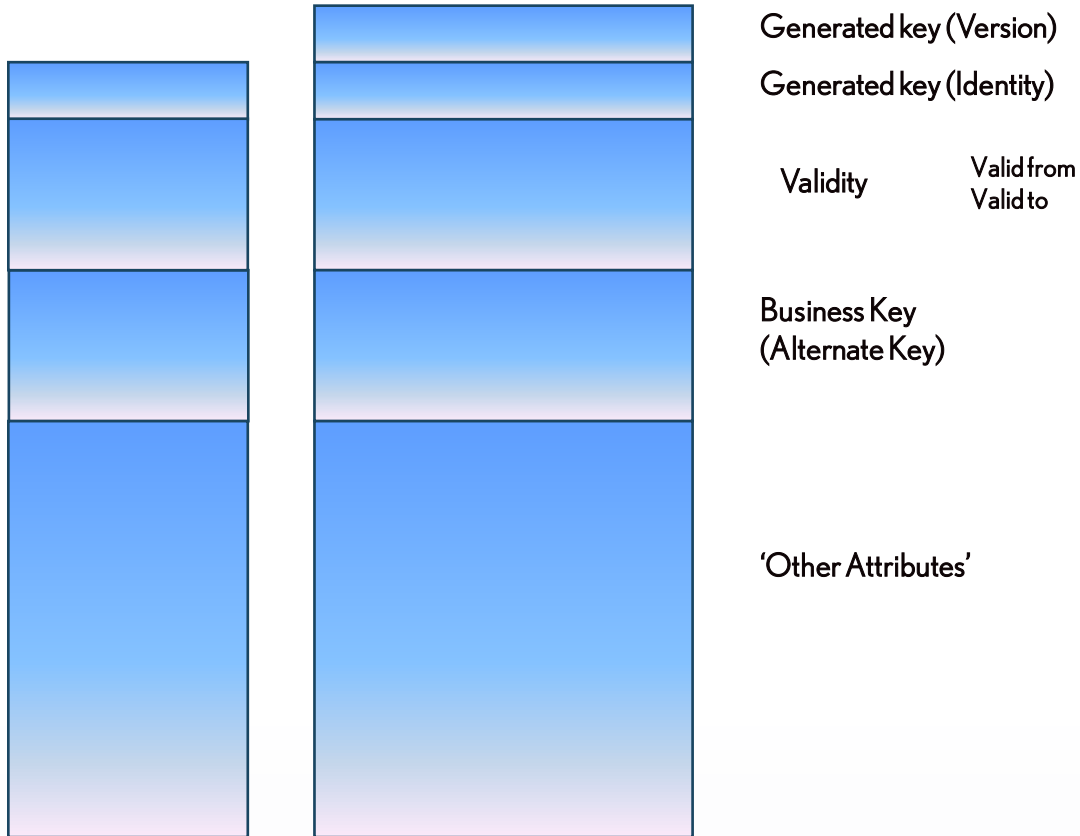
Technology concepts - IIW



Technology concepts - DDS



SAS 'Entities'



Best Practices

1. Successful implementations have both attention for Technical aspects and Functional aspects of the BI - models

By a 'Technical Approach' the business alignment is a primary attention point.

By a 'Functional Approach' the standardization, maintainability and extensibility is a primary attention point.

2. Industry Models are the result of a growth process for years. Be aware of 'legacy' in these models.

There might be legacy constructions that would be implemented in the model in a different way as they were added during the last years.

3. A Choice for an Industry Model, does not mean you have to do an exact implementation. Using it as a reference model is a valid alternative.

4. Modeling Techniques, like Data Vault and Anchor Modeling, will have additional value when business content is added.

