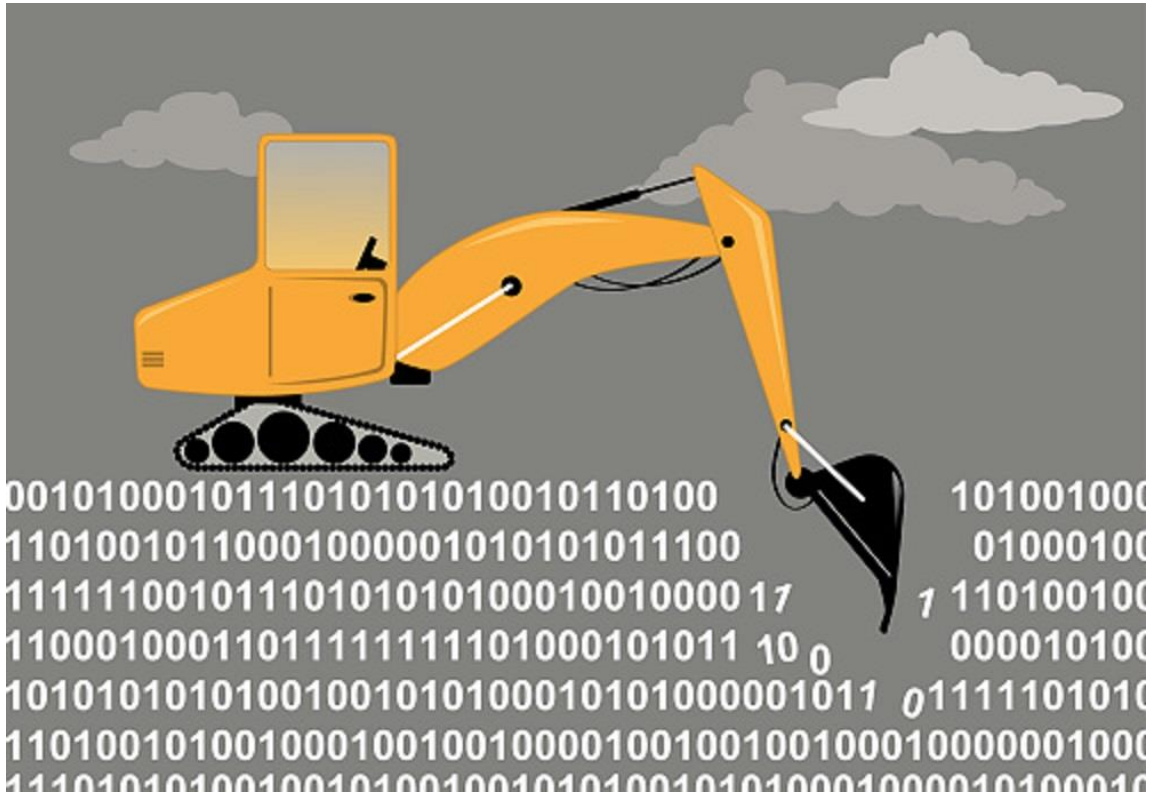


Building a Better Banking Data Architecture by using BIAN!

April 5, 2023

BiZZdesign

BIAN

ENVIZION INFORMATION STRATEGIES

A Warm Welcome to YOU!

…dialing in from all around the globe

Presenters

On today's webinar

Hans Tesselaar

BIAN Executive Director

BIAN

Patrick Derde

BIAN Architect and

Partner, Envizion

BIAN | ENVIZION INFORMATION STRATEGIES

René De Vleeschauwer

Partner, Envizion

ENVIZION INFORMATION STRATEGIES

Agenda

- **Welcome by Hans Tesselaar, Executive Director BIAN e.V.**
- **René De Vleeschauwer and Patrick Derde, Envizion**
  - **BIAN TRAININGS**
- how to navigate BIAN's information-related deliverables
- how to search within the BIAN repository
- how to manage the BIAN Business Object Model as an enterprise information architecture model
- the different usages of the BIAN Business Object Model
- how to create your own enterprise Business Object Model, whether starting from BIAN's or not
- the benefits of becoming a BIAN certified architect and how it can help you advance your career

  - **BIAN SERVICES**
    - Free services for members and non-members
    - Additional services (not for free)

- **The BIAN Certification program and why to get BIAN certified**

- **Q&A**

Introduction to BIAN

Hans Tesselaar

BIAN's Mission

To provide the world with the best banking architecture. To be the banking technology standard. The Central objective is to support the banking business/clients with high performance and security.

One of the key objectives for IT in the banking industry is to help banks lower IT and operational costs and mitigate the risks associated with technology innovation.

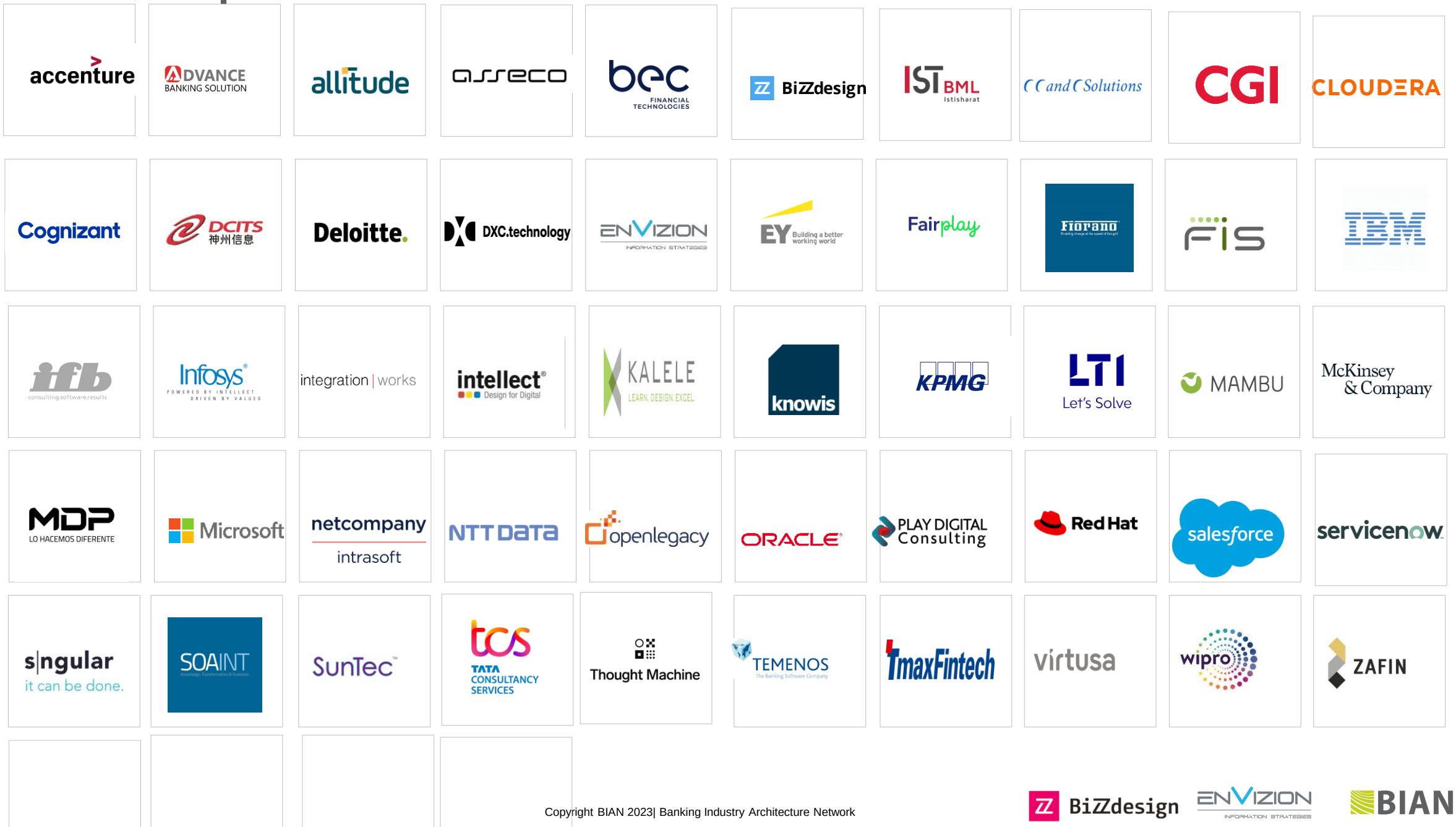
To provide a trusted roadmap for constant innovation. We create best practice architecture that the world's banks can rely upon 100%. To gather the best minds in banking architecture for the world to share in an open way.

By collaborating and sharing in an open way, the best expertise across our global ecosystem of leading banks, technology providers, FinTech players, academics and consultants to define a revolutionary banking technology framework that standardizes and simplifies the overall banking architecture.

Introduction | BIAN & Financial Institutions

BiZZdesign ENVIZION INFORMATION STRATEGIES BIAN

Introduction | BIAN & Partners



BiZZdesign ENVIZION INFORMATION STRATEGIES BIAN

Introduction | BIAN & Academic, Standard Bodies and Training Partners

BiZZdesign ENVISION INFORMATION STRATEGIES BIAN

Member driven organization

Fees (annual membership)

- **Large Software / Tech vendors / Integrators** (250 employees or more)

  EUR **30.000,-**

- **Banks / FI's that are not vendors**

  EUR **20.000,-**

- **Mid-Size Software / Tech vendors / Integrators** (less than 250 employees)

  EUR **10.000,-**

- **Federal Banks / Central Banks**

  EUR **10.000,-**

- **Small Software / Tech vendors / Integrators / FinTech's** (less than 50 employees)

  EUR **5.000,-**

- **Academic Partners**

  EUR **0,-**

Questions

Please stay muted
and
type your questions in the righthand bar

Or send them to info@bian.org

Building a Banking Data Architecture using BIAN

Information Architecture Working Group

BIAN
Banking Industry
Architecture Network

Objectives

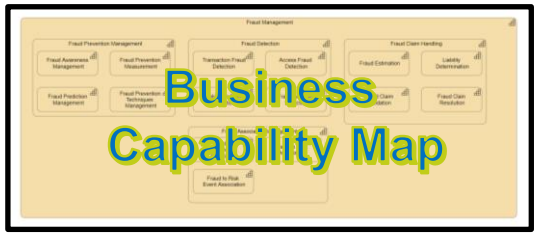
- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

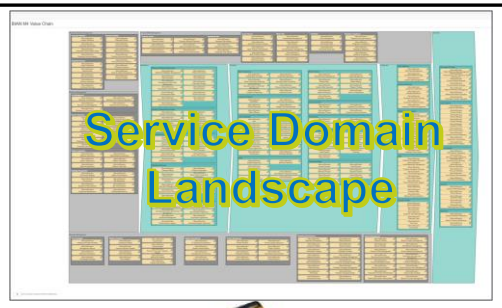
Just a teaser ...

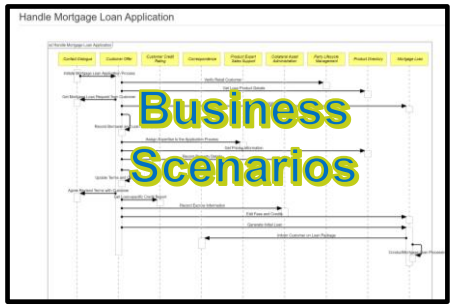
Objectives

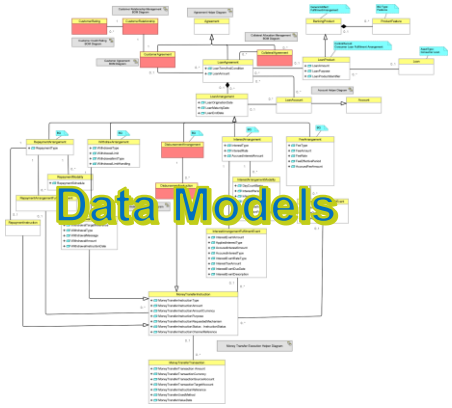
- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

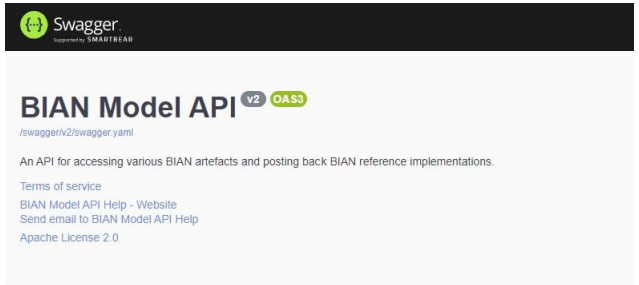
BIAN – Banking Industry Architecture Network - Framework











www.bian.org
Portal.bian.org

Objectives

- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

BIAN – Banking Industry Architecture Network - Framework

Building a Banking Data Architecture by using BIAN

- Positioning BIAN Information Architecture

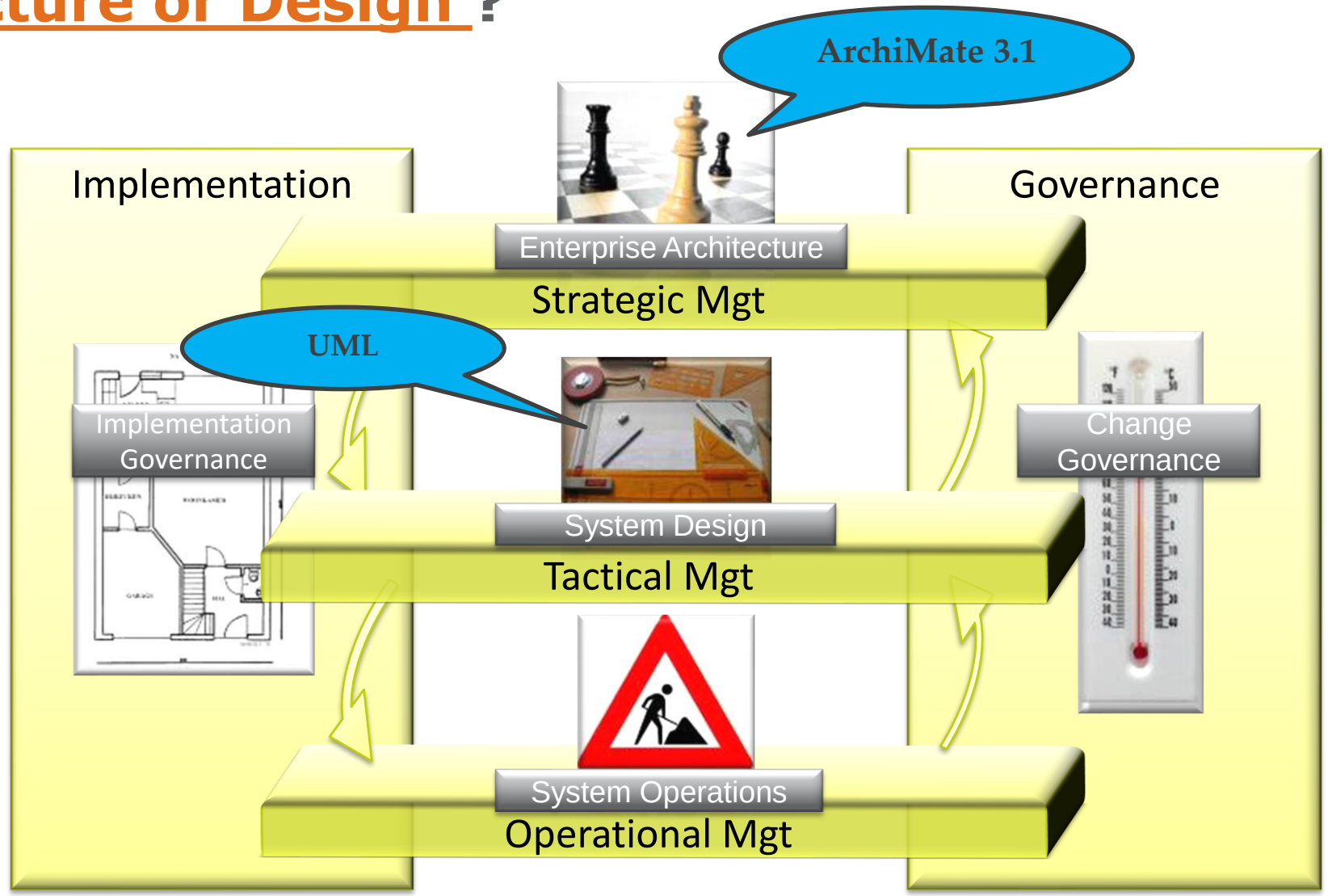
  - **Data Architecture or Data Design ?**
  - Data Management - Data Governance ?
  - Conceptual, Logical or Physical ?

Architecture definition

The Architecture (of a system) is the fundamental organization of that system embodied in its fundamental components, their relationships to each other, and to the environment, and the principles guiding its design and evolution.

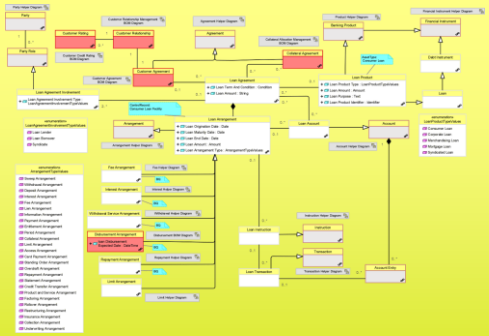
ISO/IEC 42010:2007

Architecture or Design ?

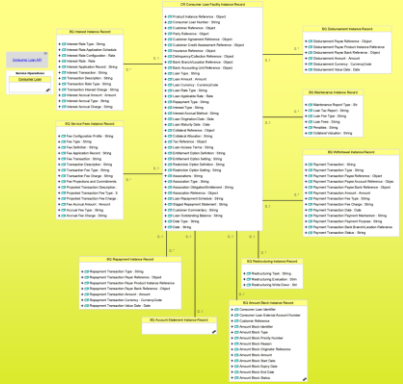


Banking Data Architecture definition

Banking Data Architecture is the fundamental organization of a Banking Information system embodied in its fundamental Data components, their relationships to each other, and to the environment, and the (data) principles guiding its design and evolution



Business Object Model



Control Record Model

BIAN will use the term Information Architecture

BiZZdesign ENVISION INFORMATION STRATEGIES BIAN

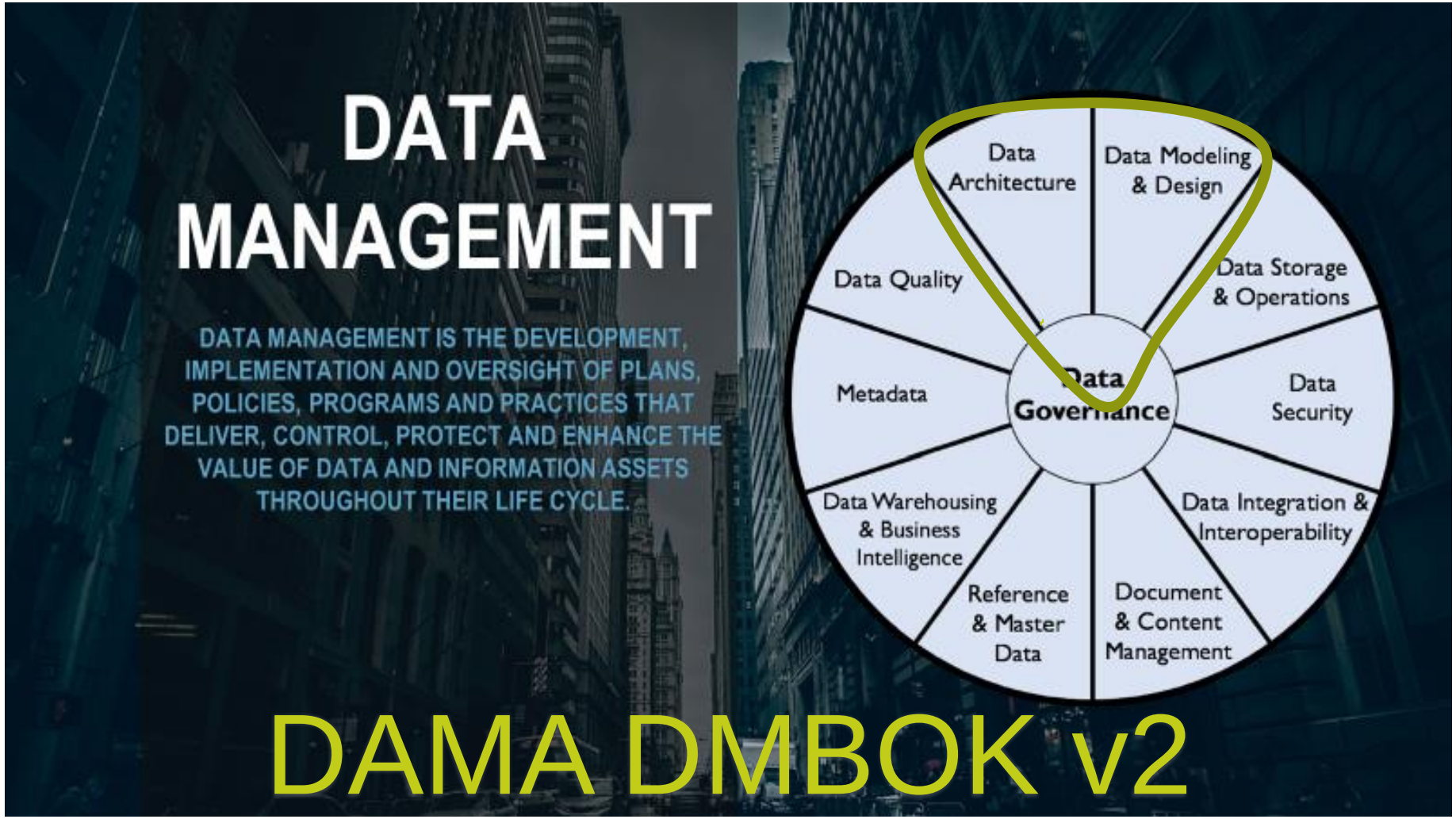
Building a Banking Data Architecture by using BIAN

- Positioning BIAN Information Architecture

  - Data Architecture or Data Design ?
  - **Data Management - Data Governance ?**
  - Conceptual, Logical or Physical ?

Building a Banking Data Architecture by using BIAN

- Positioning BIAN Information Architecture



Building a Banking Data Architecture by using BIAN

- Positioning BIAN Information Architecture

  - Data Architecture or Data Design ?
  - Data Management - Data Governance ?
  - **Conceptual, Logical or Physical ?**

Conceptual – Logical - Physical

Level of Detail	Business	Data/Application	Technology
Architecture	Conceptual →	Logical →	Physical
Design (attributed)	Conceptual →	Logical →	Physical

Enterprise data model

Conceptual data model: BIAN BOM – Control Record Model
Most important business concepts/ terms: what are the things we talk about in the organization?

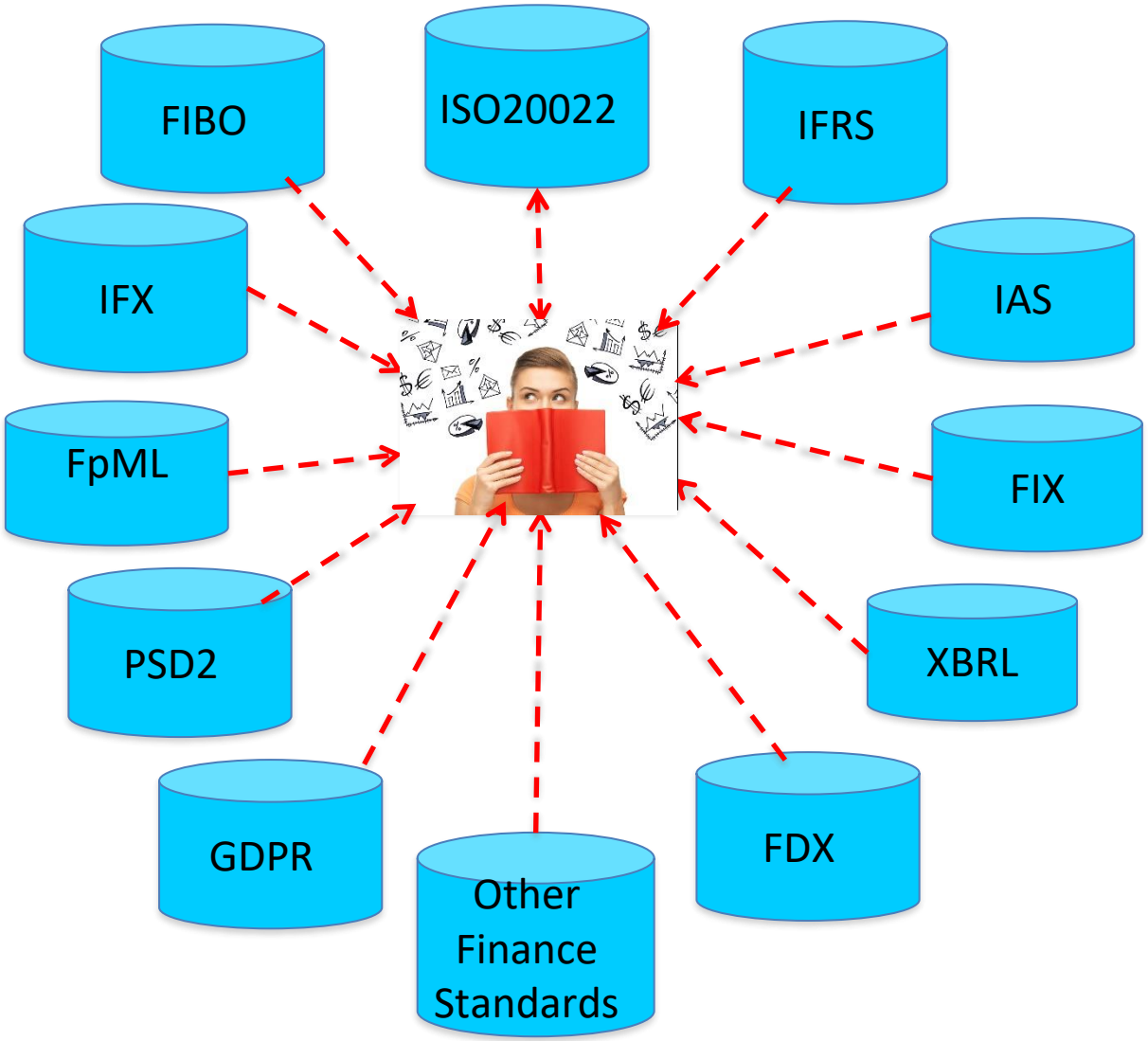
Subject areas: BIAN Service Domains / BIAN Bus.Capabil.
Partitioning the data of the enterprise in logical groups (subject areas) of data about the same "thing".

Logical data model:
Structuring data for storage in a database management system in a platform independent manner.

Physical data model:
Model the way data in the database running on a database management system is stored physically.

Financial Industry Speech Community

BIAN IN THE CONTEXT OF OTHER STANDARDS



BiZZdesign ENVIZION INFORMATION STRATEGIES BIAN

How can BIAN help you keeping grip on your Banking Data Management and Data Governance ?

Objectives

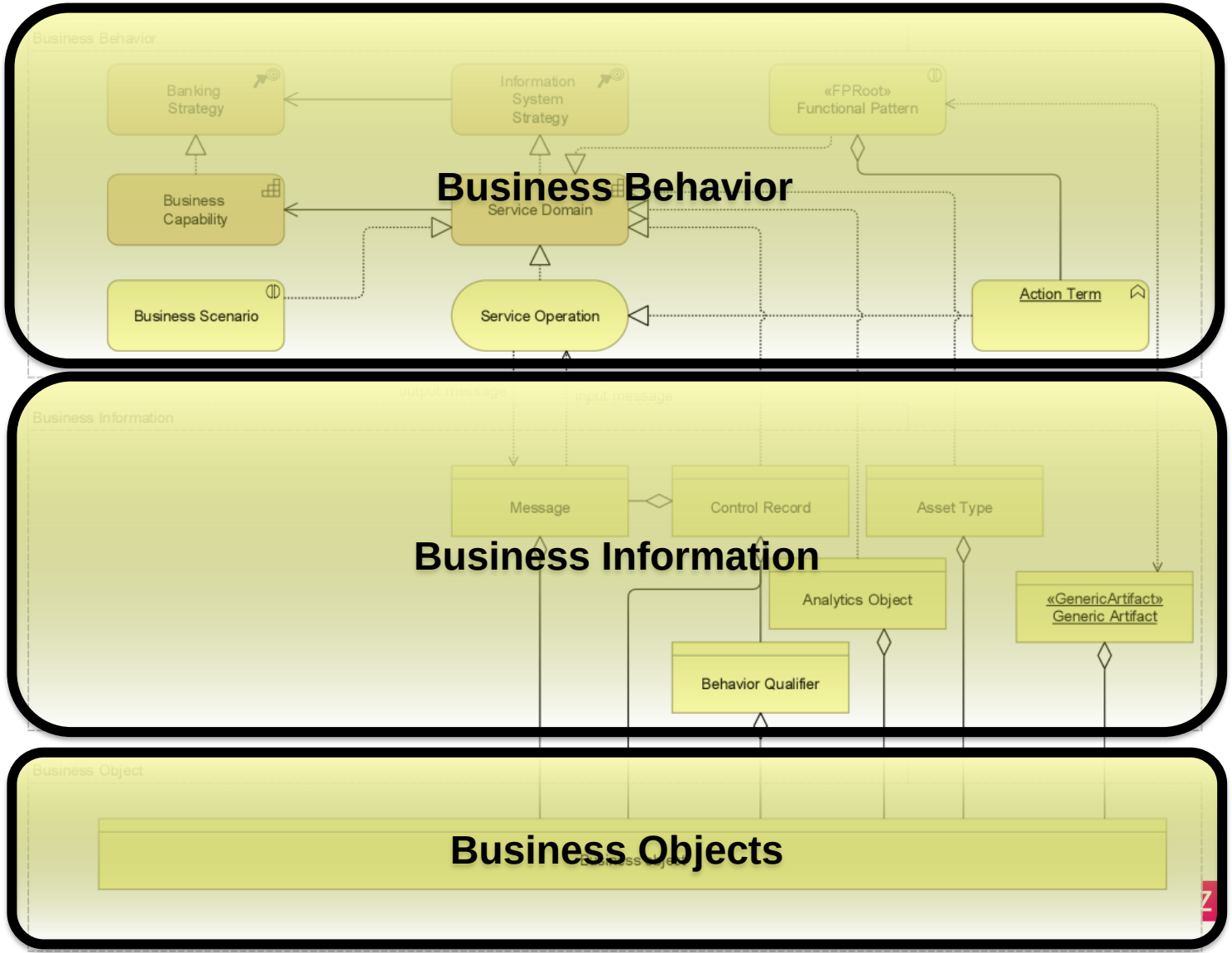
- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

Basic Object Modeling Principles

- Model Real world things
  - detect real world objects (e.g. Party, Loan Agreement)
- Model View on reality
  - Business information is combining data about objects in relation to other objects to make it meaningful to communicate (e.g. Documents, screens, electronic messages, overviews, reports, ...)
  - subset of things (e.g. Consumer loans)
  - collection of things (e.g. Securities portfolio)
  - ...
- Defining before Naming
- Define once, use in multiple context
- Pattern Based Modeling

Extract from Metamodel

BIAN Reference Architecture
Abstract Metamodel – Layered view



BiZZdesign ENVIZION INFORMATION STRATEGIES BIAN

BIAN Business Object Modeling

Way of Thinking and Modelling

BIAN Busines Object Modeling in a nutshell

Scope:

- Information Modeling
- Administrative Systems

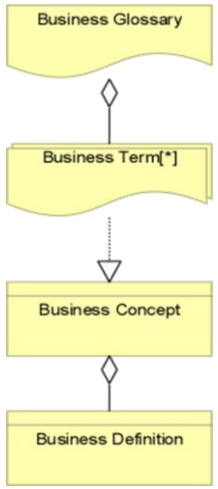
4 Patterns:

1. Term-Concept Pattern (SBVR)
2. Concept Model Pattern (ERD)
3. Concept Classification Pattern
4. Business Object Model Pattern

Process:

1. What is the concept represented by a term?
2. What is the type of concept?
3. If the concept is an object, what type of object is it ?
4. Apply Concept Model Pattern.

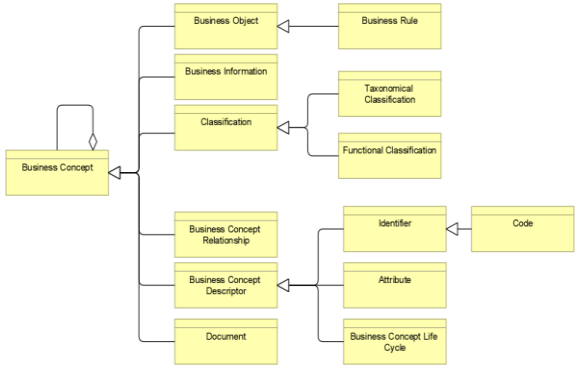
Term – Concept Pattern



1) I describe "something"
What does it mean?
Synonyms ? Homonyms

Concept Classification Pattern

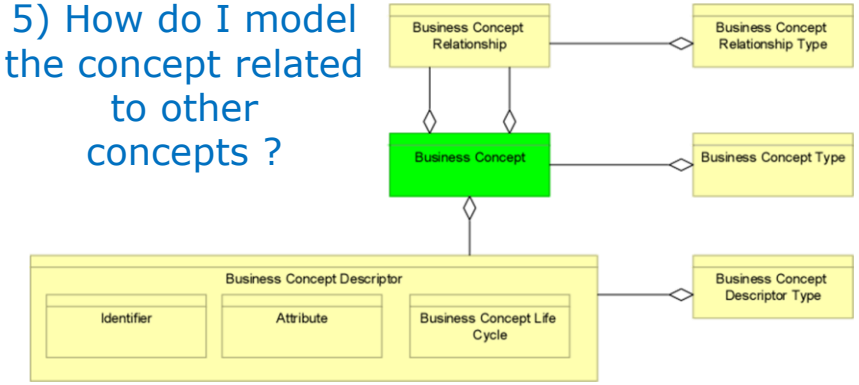
2) What is the type of concept ?



3) Am I describing a business Object ?

BOM Structure Pattern

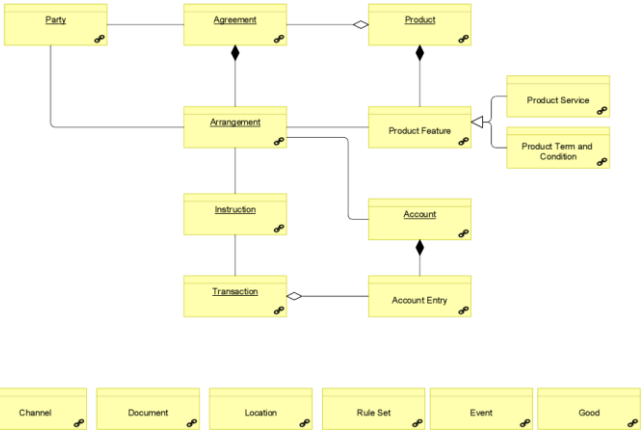
5) How do I model the concept related to other concepts ?



6) What are the concept Characteristics ?

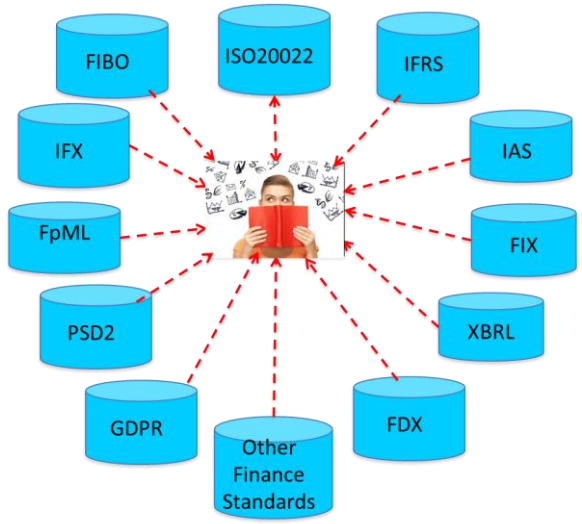
BOM Content Pattern

4) What is the type of Business object ?



Link BIAN's Canonical model to ISO20022

Attribute Category	Elements	Description	BIAN BOM	ISO20022 BM	ISO20022 Repository
CR Current		The control record maintains for a current account product instance	…	…	…
	Current Account Fulfillment Arrangement Instance Record	The complete control record	CurrentAccountProduct	CashAccountService	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_FAZw0MTGEeChad0JzLk7QA_842517163
Properties		Properties and reference details of the instance	…	…	…
	Current Account Fulfillment Arrangement Property Definition	Definition of the Current Account Fulfillment Arrangement instance property	CurrentAccountProduct (as Banking Product). ProductFeature	…	…
	Current Account Fulfillment Arrangement Property Setting	The default initiation option setting	CurrentAccountProduct (as Banking Product). ProductFeature.ProductConfiqurationOption	…	…
	Current Account Number	The associated account number in any suitable format (e.g. IBAN)	CurrentAccount (as Account).AccountIdentification	Account/Identification	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_E1rHhcTGEeChad0JzLk7QA_-755813725
	Customer Reference	Reference to the account primary party/owner	CurrentAccount (as Account).AccountInvolvement (as AccountOwner)	AccountOwnerRole	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_EysE9cTGEeChad0JzLk7QA_-200588046
	Bank Branch/Location Reference	Bank branch associated with the account for booking purposes	CurrentAccount (as Account).AccountInvolvement (as AccountServicer). PartyRole.Party.Location	Party/Location	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_FNqJt8TGEeChad0JzLk7QA_-1317971633/elements/_z2l6YGx5EeKmZJ0Ago--9g_239738909
	Issued Device	Reference to an issued device associated with the facility (such as a card or key fob)	TBD	…	…
	Date Type	Key dates associated with the account e.g. opening date, closing date	CurrentAccount (as Account).AccountDateType	…	…
	Date	Value of the date type	CurrentAccount (as Account).AccountDate	Account/ClosingDate	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_E_9E5sTGEeChad0JzLk7QA_-1723898882
				Account/OpeningDate	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_FAGO0MTGEeChad0JzLk7QA_878229562
				Account/LiveDate	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_E_9ES8TGEeChad0JzLk7QA_-1297294026
	Account Type	The type of current account (e.g. checking, student, small business)	CurrentAccount (as Account).AccountType	Account/Type	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_7CvjsPjSEeG2rK1g72ai7Q_-843966450
	Account Currency	The primary account currency	CurrentAccount (as Account).AccountBaseCurrency	Account/BaseCurrency	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_-69C4lDWEeKn8fN1QdMTXQ_-145666344
			CurrentAccount (as Account).AccountReportingCurrency	Account/ReportingCurrency	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E1rHgsTGEeChad0JzLk7QA_-1068889728/elements/_E4gZEsTGEeChad0JzLk7QA_-965441548
	Tax Reference	Reference identifier linking the account to appropriate tax handling	CurrentAccountAgreement (as Agreement). RuleSetAsRegulation	CashAccount/Tax	https://www.iso20022.org/standardsrepository/public/wcDescription/mvl/dico/bo/_E4g2EcTGEeChad0JzLk7QA_



Objectives

- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

Objectives

- Introducing BIAN and its Reference Architecture for the Financial Industry.
- Setting the Scope
- Understanding the BIAN Business Object Model Approach
- Illustrate the methodology briefly by BIAN examples
  - Consumer Loans
  - Current Account
  - Standing Order
- Applying the BOM approach and an Enterprise Data Model in your organization

BIAN Information Architecture: a tool for …

Data steward

The Data Steward manages data on behalf of others in the best interest of the organization from the business point of view.

Data owner

The data owner is ultimately responsible for a data set and ensures that stakeholders have access to reliable data. Data and its use are managed so that internal and external requirements are met.

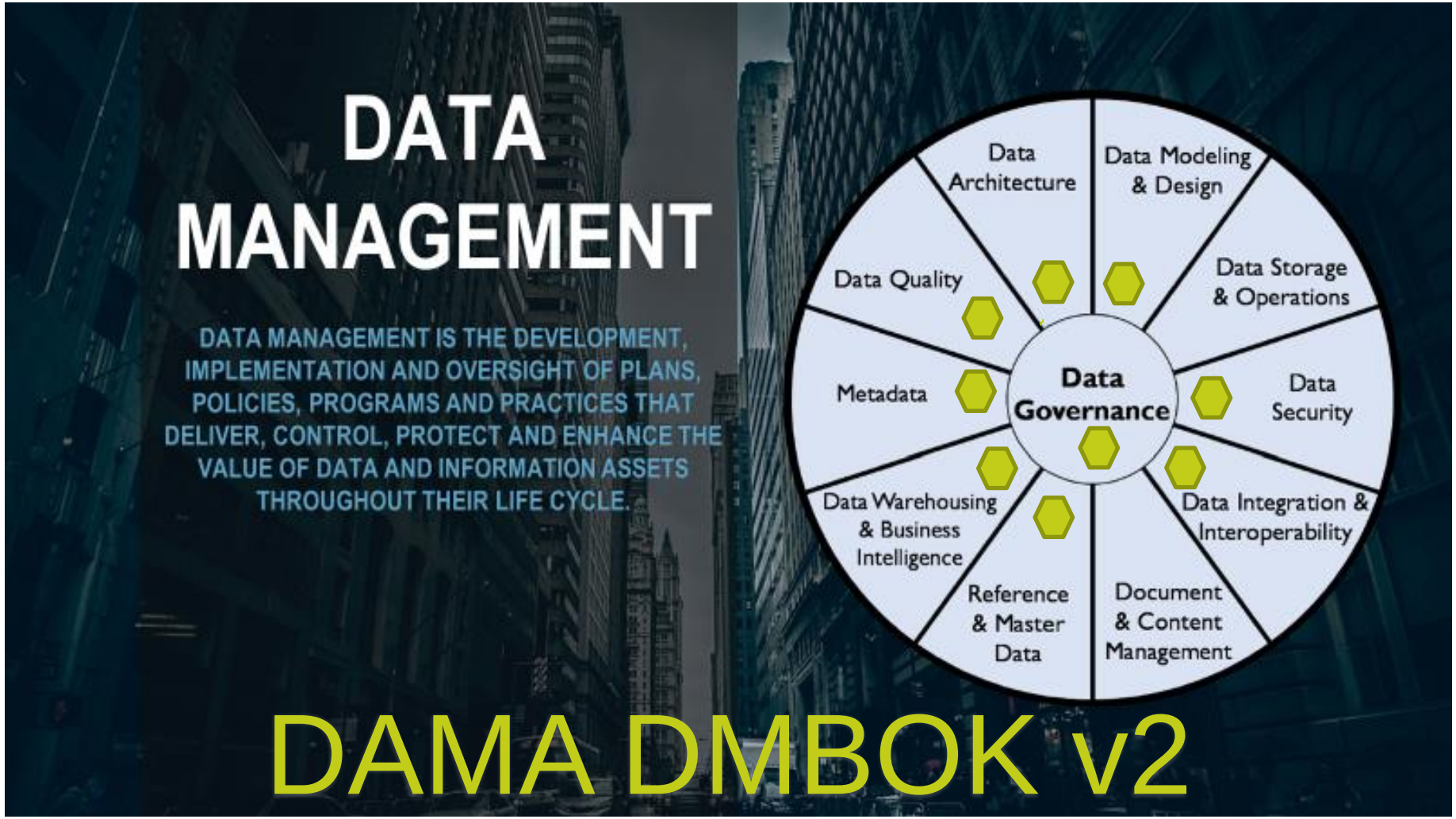
Data custodian

The data custodian manages data on behalf of others in the best interest of the organization from the IT point of view and supports the data steward.

BiZZdesign ENVIZION INFORMATION STRATEGIES BIAN

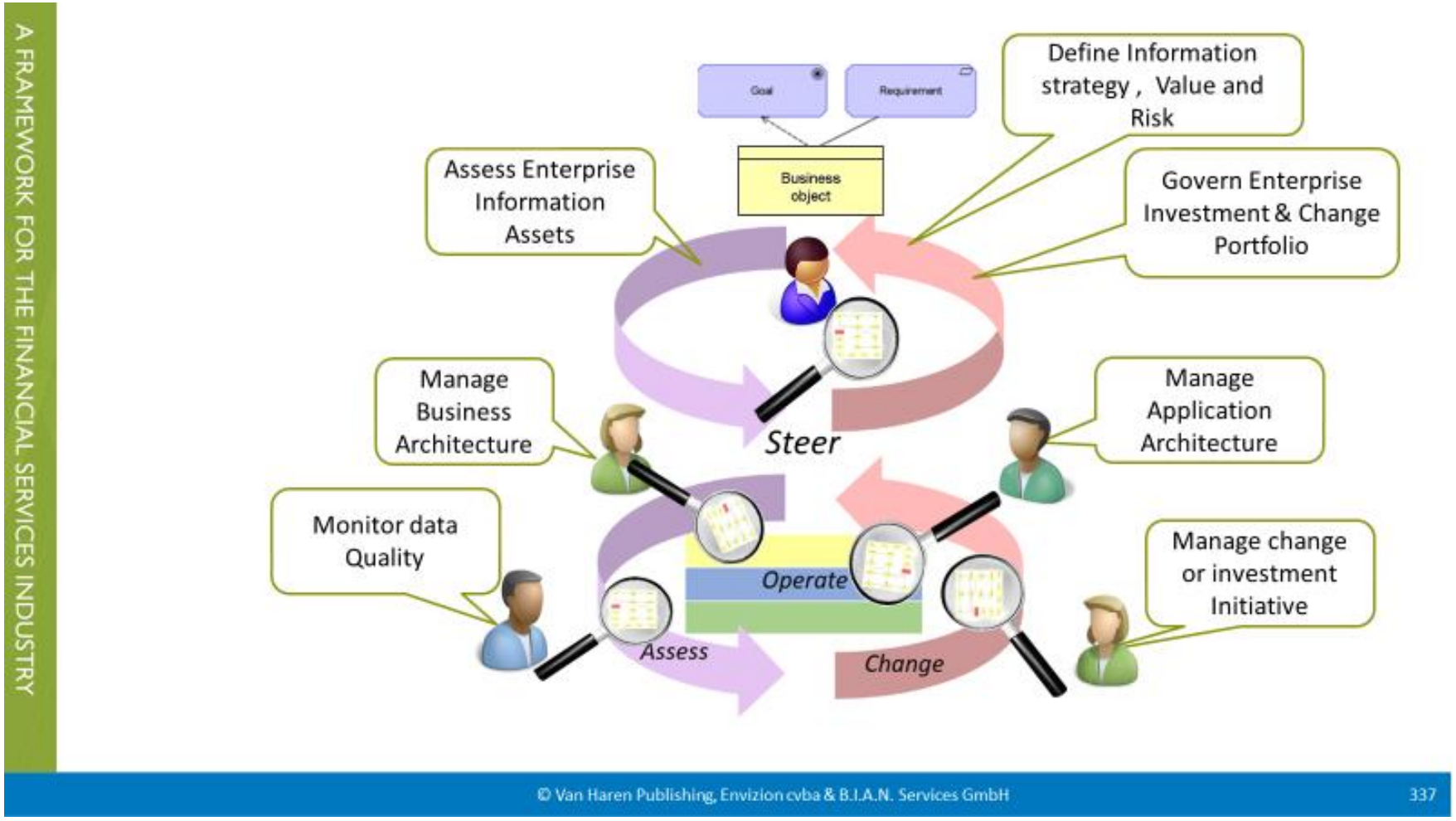
Building a Banking Data Architecture by using BIAN

- Positioning BIAN Information Architecture



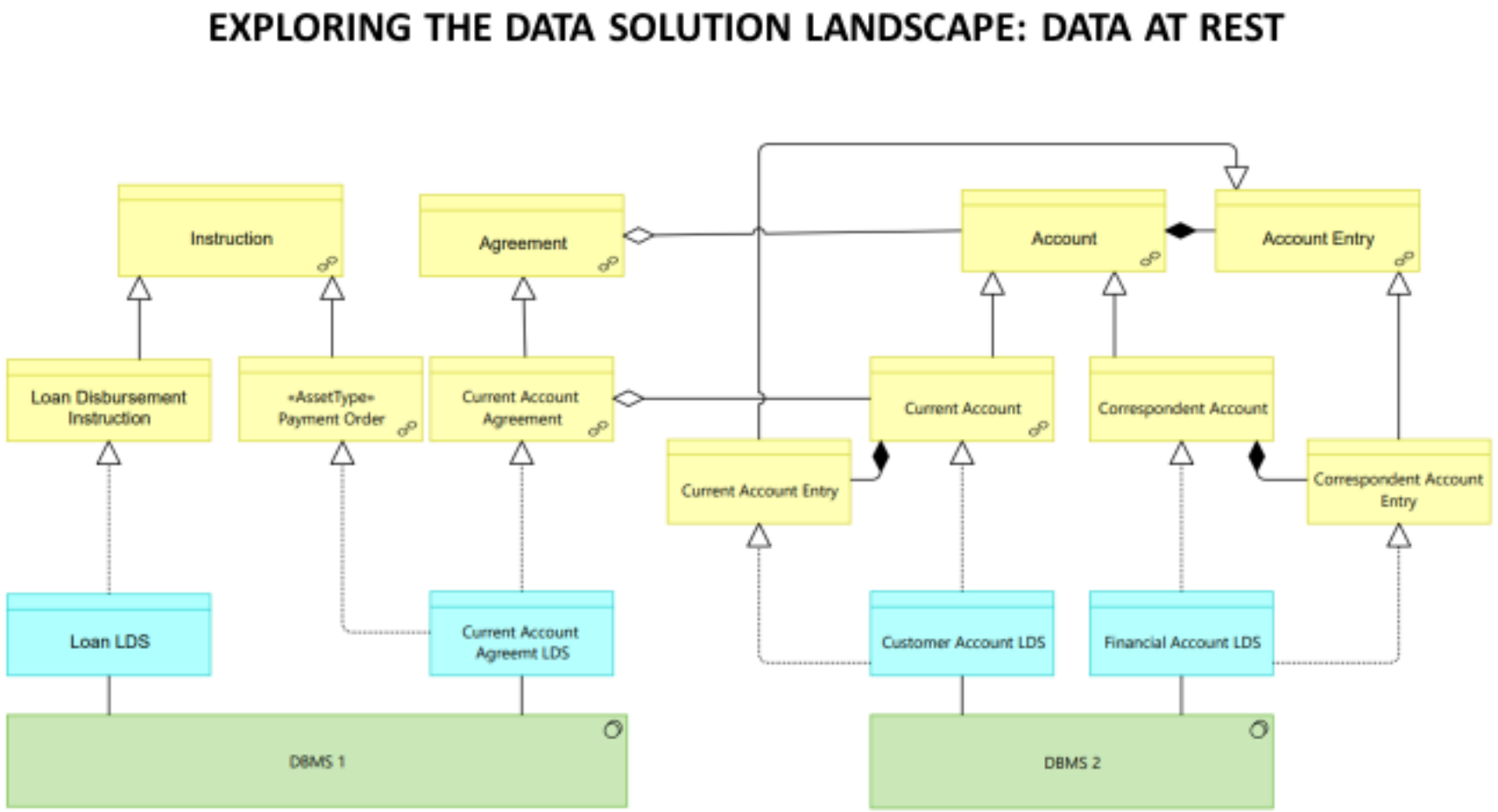
Building a Banking Data Architecture by using BIAN

Data Governance



Building a Banking Data Architecture by using BIAN

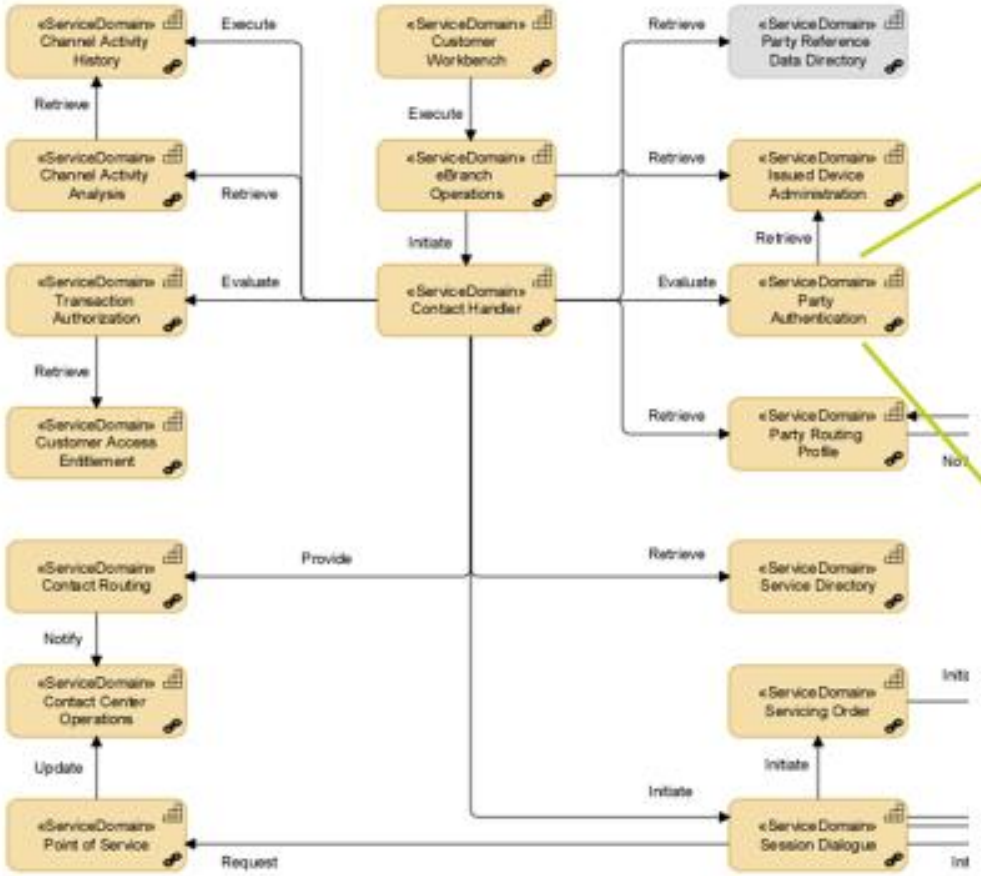
A FRAMEWORK FOR THE FINANCIAL SERVICES INDUSTRY

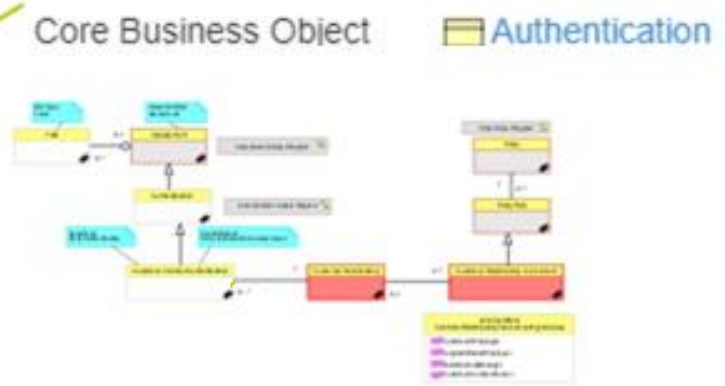


BIAN

Building a Banking Data Architecture by using BIAN

A FRAMEWORK FOR THE FINANCIAL SERVICES INDUSTRY





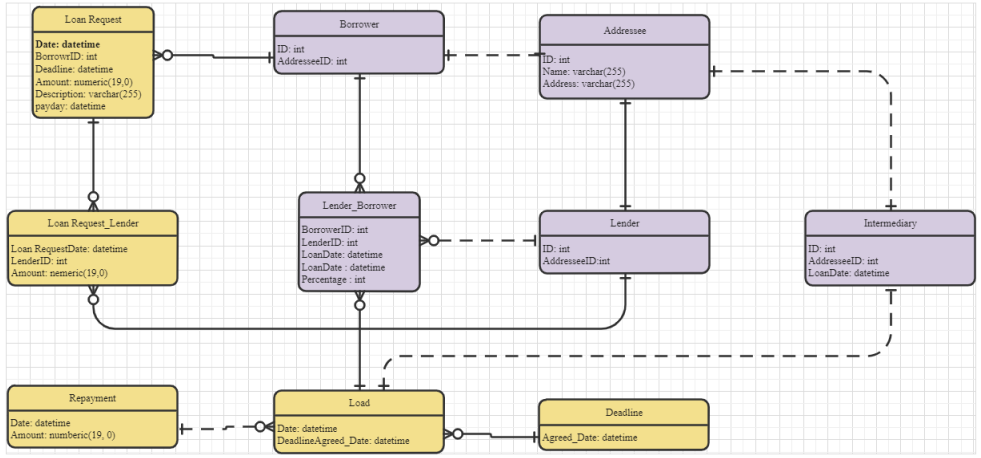
Party Authentication BOM Diagram

Party Authentication Control Record Diagram

Building a Banking Data Architecture by using BIAN

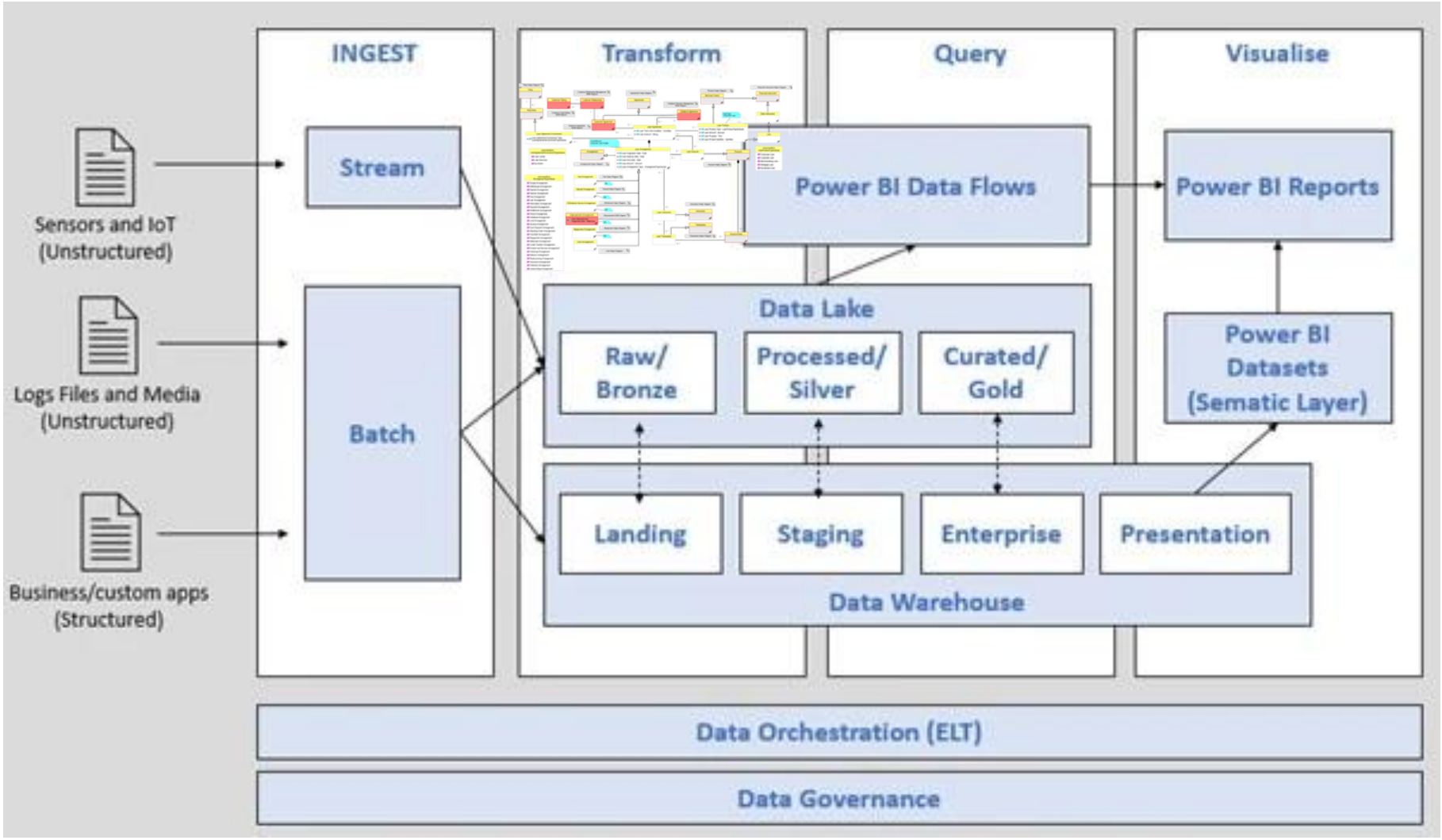
From Conceptual to Logical

- Conceptual Datamodels (BIAN Control Record Models, BIAN Business Object Model Diagrams)
- Logical Datamodels (ERDs, Dimensional, Vault, Row-based versus Column-based)
  - Objects
    - become Entities
    - with a 1 to 1 relationship to another object are merged in 1 entity
  - Relations become
    - Foreign keys
    - Attributes
    - Relationship entities
  - Multivalued attributes become
    - Entities
    - Set of entity attributes
  - History of attributes and relations become
    - Entities
    - Set of entity attributes



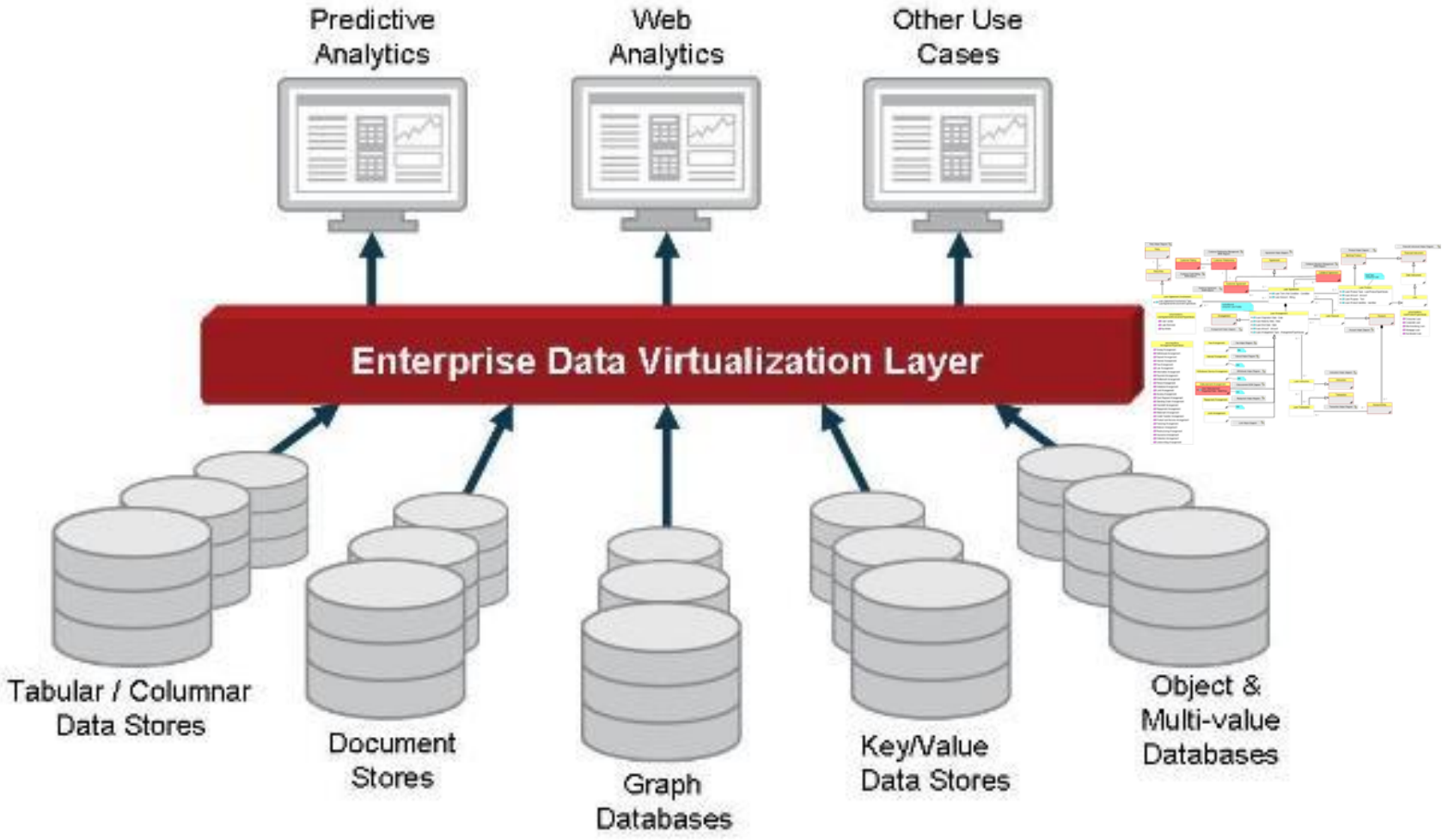
Building a Banking Data Architecture by using BIAN

From Transactional to Informational



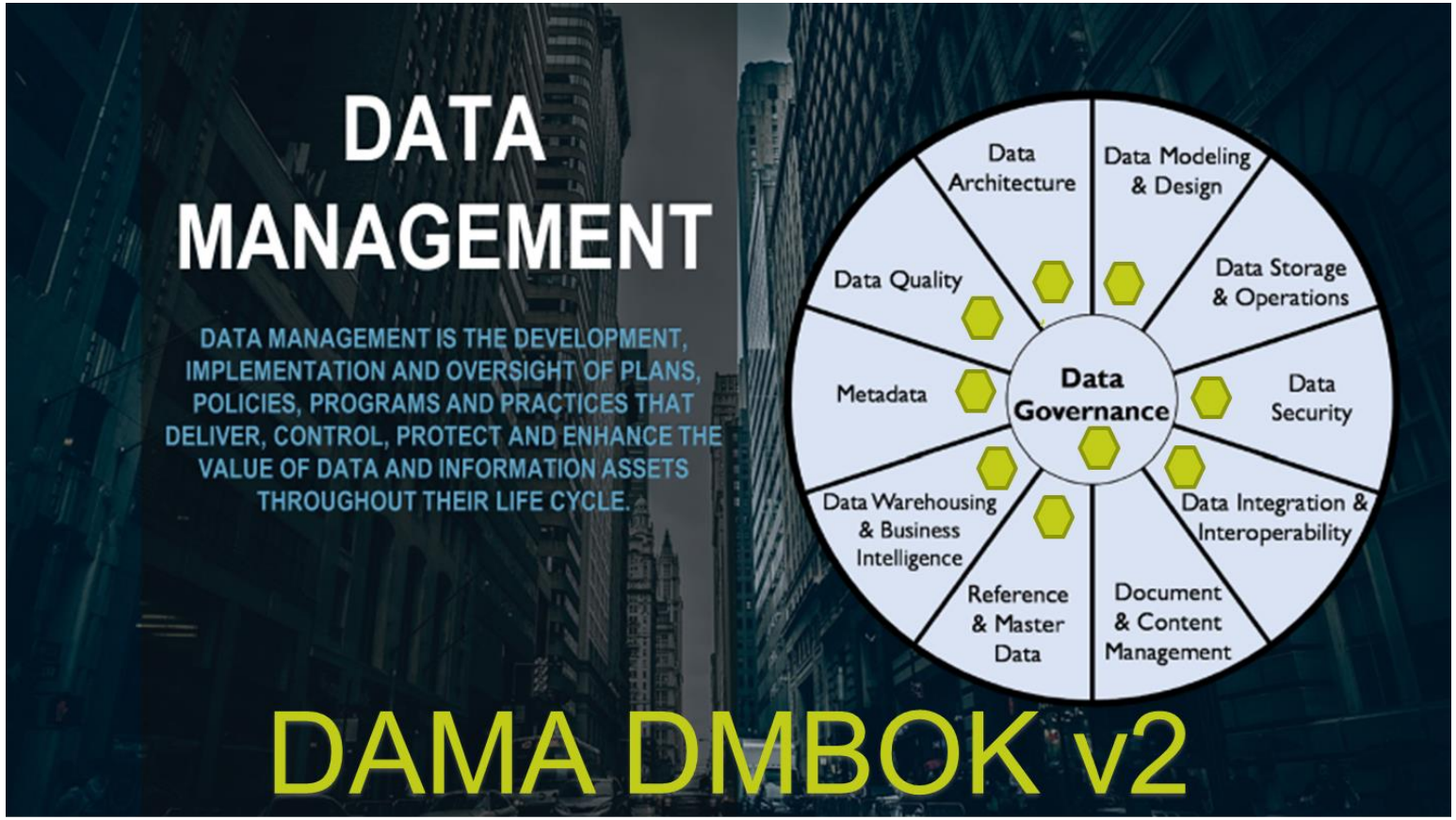
Building a Banking Data Architecture by using BIAN

Data Virtualization



Building a Banking Data Architecture by using BIAN

And many more usages …



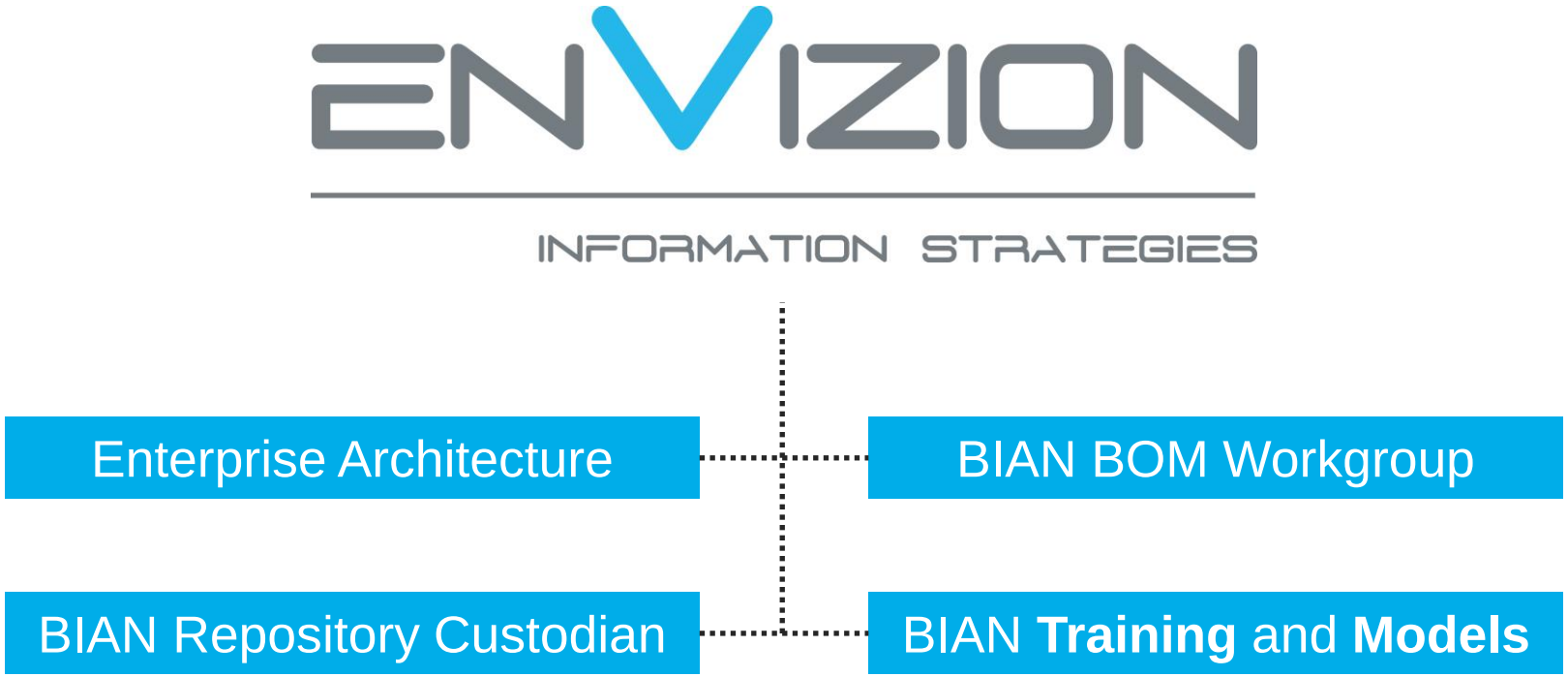
BIAN Trainings

René De Vleeschauwer

VERBA VOLENT, SCRIPTA MANENT

“spoken words fly away, written words remain”

About Envizion



BIAN trainings

BIAN

Banking Architecture Foundation

BIAN

Data Architecture & Design Specialist

BIAN Data Architecture & Design Specialist

PART I

Introducing BIAN and its Reference Architecture for the financial industry

PART II

Understanding the BOM approach

PART III

Applying the BOM approach and an enterprise data model in your organization

KEY MESSAGE

The **conceptual model** is

the **key foundation** for

sustainable data management

PART I

Introducing BIAN and its Reference Architecture for
the financial industry

1. Introducing BIAN, its Framework and its principles
2. Explaining the BIAN Architecture

PART II

Understanding the BOM approach

3. Documentation conventions in ArchiMate and UML

4. Explaining the BOM approach
   - 4.1 Understanding the BOM Content Pattern
   - 4.2 Understanding the BOM Structure Pattern
   - 4.3 Defining a business concept
   - 4.4 Classifying: Finding the building blocks of the data model
   - 4.5 Completing the information requirements

5. Documenting the BIAN BOM as Enterprise Model
   - 5.1 Using the ArchiMate and UML language
   - 5.2 Managing the three-dimensional puzzle : an enterprise model
   - 5.3 The devil is in the detail

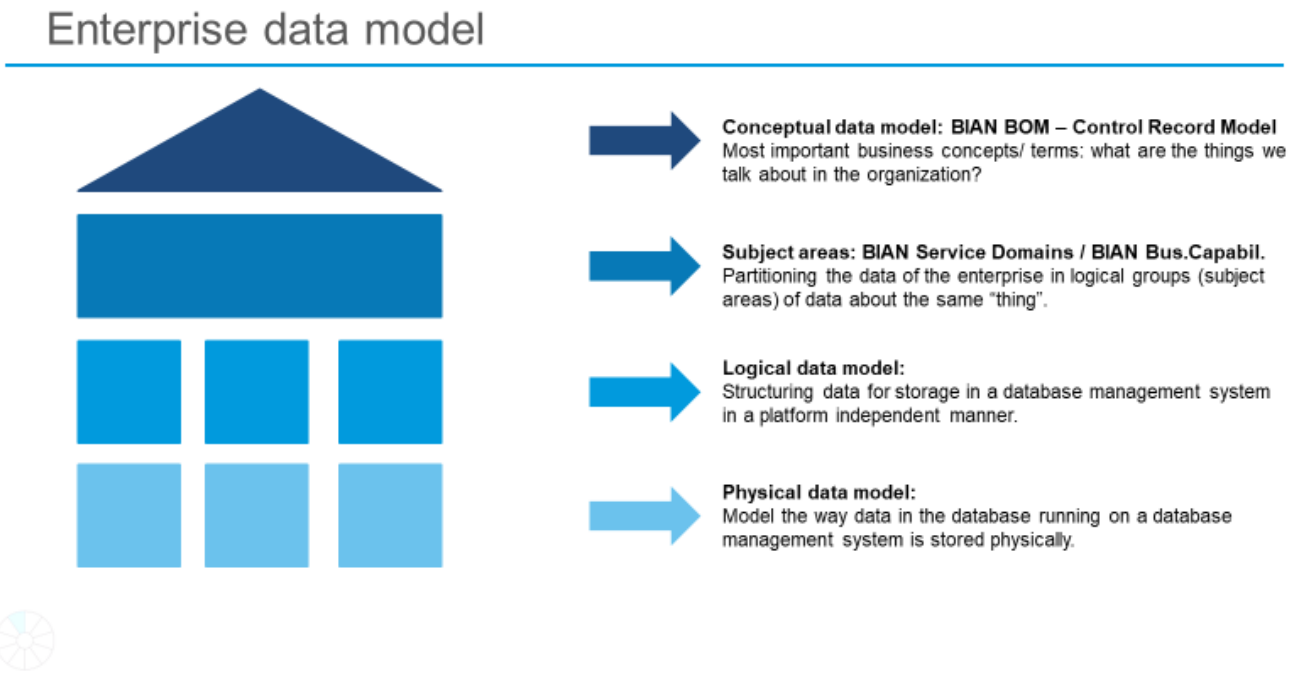
PART III

Applying the BOM approach and an enterprise data model in your organization

6. General abilities
7. Information Governance
8. Data Architecture
9. Data on System level

BIAN Models: Conceptual – Logical - Physical

Level of Detail	Business	Data/Application	Technology
Architecture	Conceptual	Logical	Physical
Design (attributed)	Conceptual	Logical	Physical



BIAN Models

Ready to import into your favorite tool

Visual Paradigm

ENTERPRISE ARCHITECT

IBM Rational. software

XMI XML Metadata Interchange

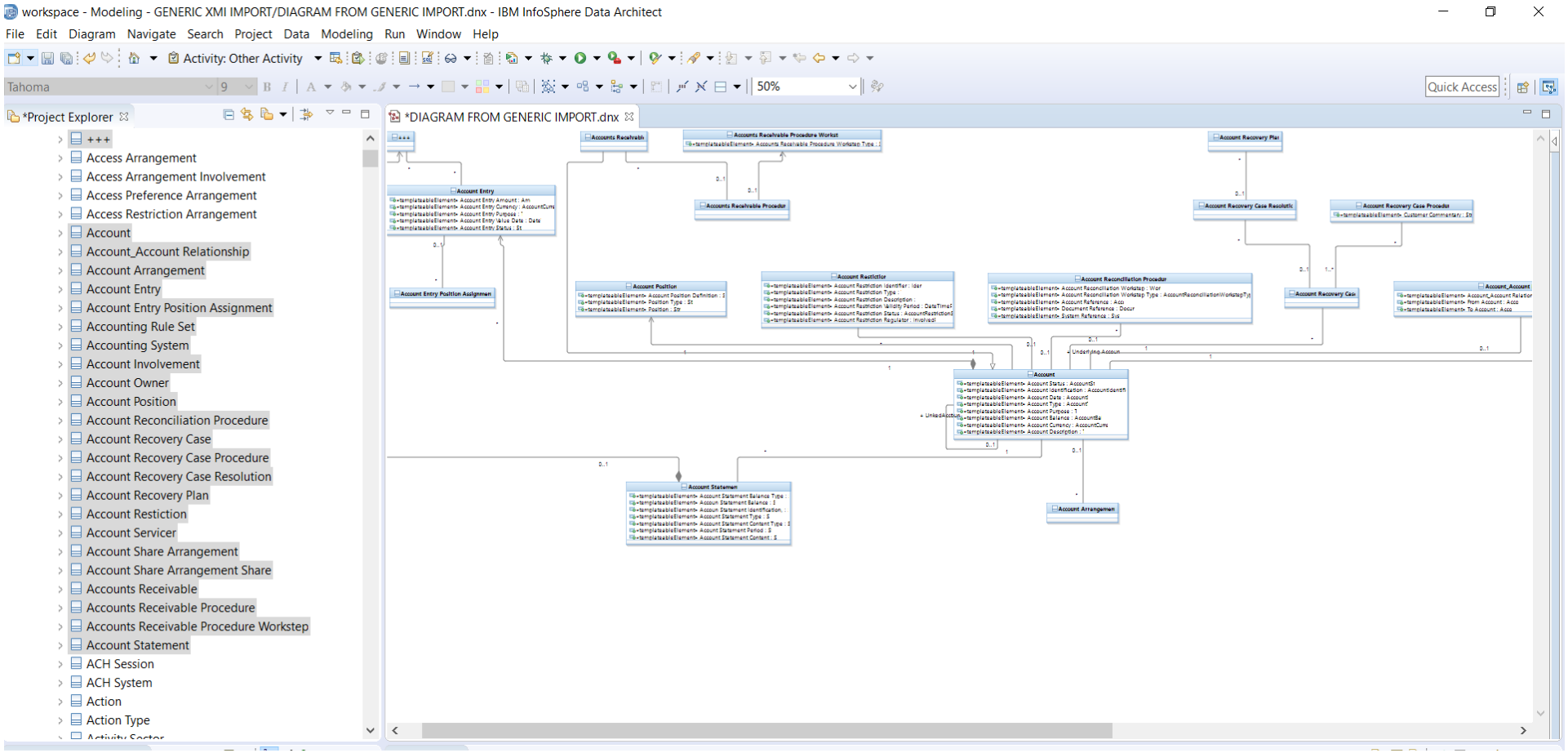
(XMI: no diagrams, colors or positions)

Each model has the same colours and positions as the original BizzDesign model

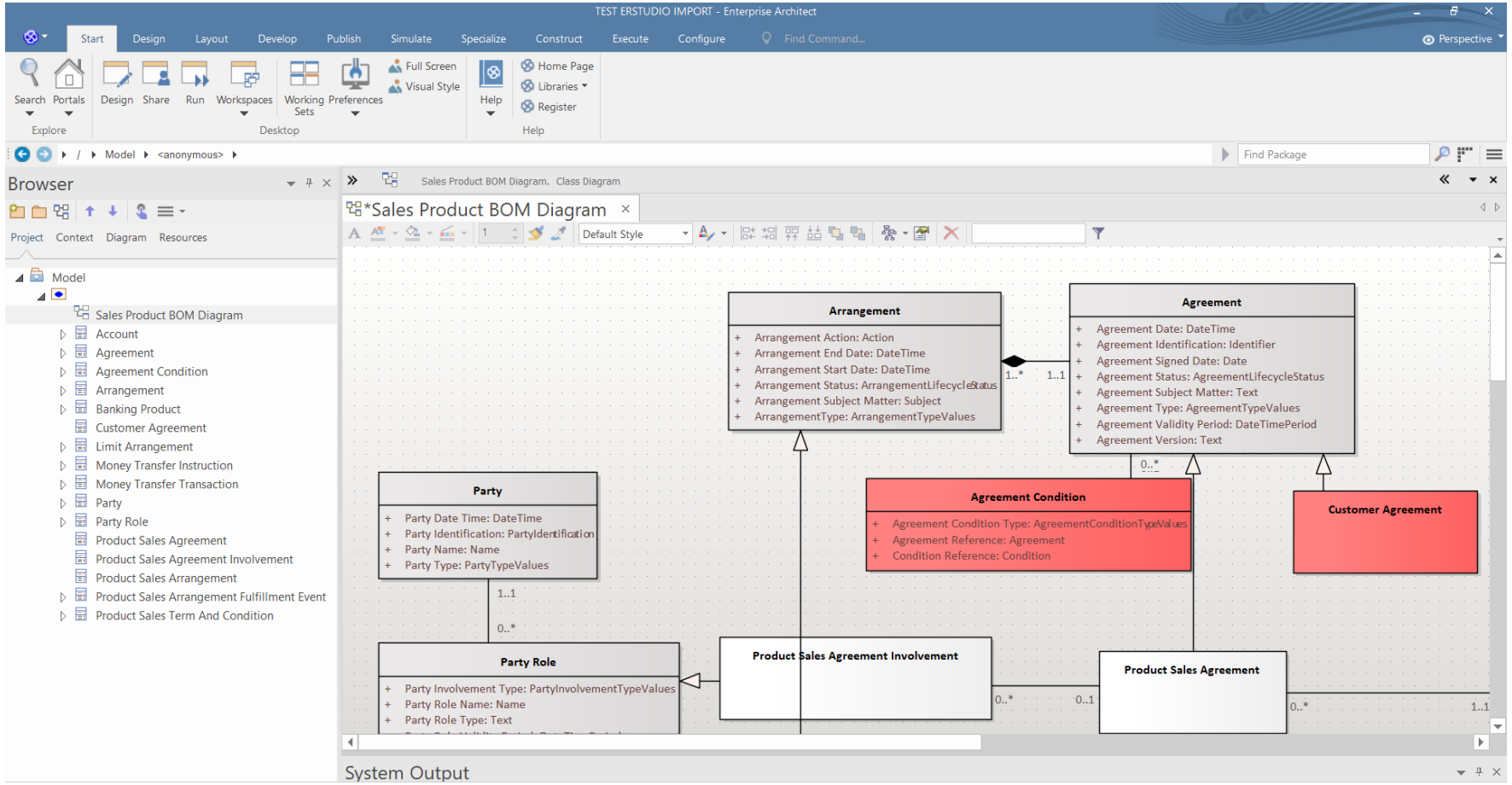
- **Full documentation** in PDF format: BIANBOM version 10
- **Organised** per Business area, Business Domain, Service domain (class diagrams), helper, landscape and overview diagrams with and without referenced diagrams and as one global file containing all objects.
- **Simply import**. No additional steps or configuration needed.

BiZZdesign ENVISION INFORMATION STRATEGIES BIAN

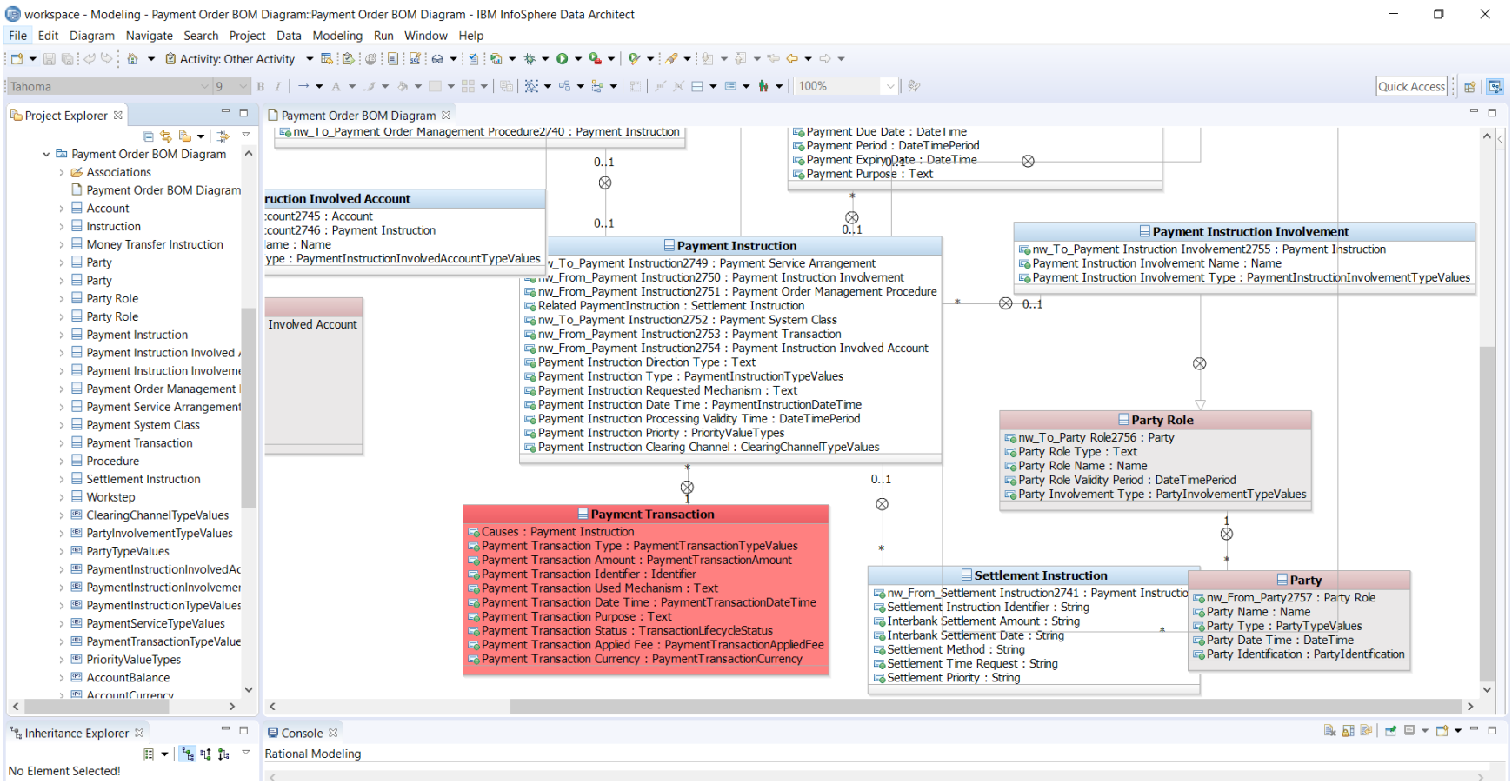
Generic XMI import of global model SD



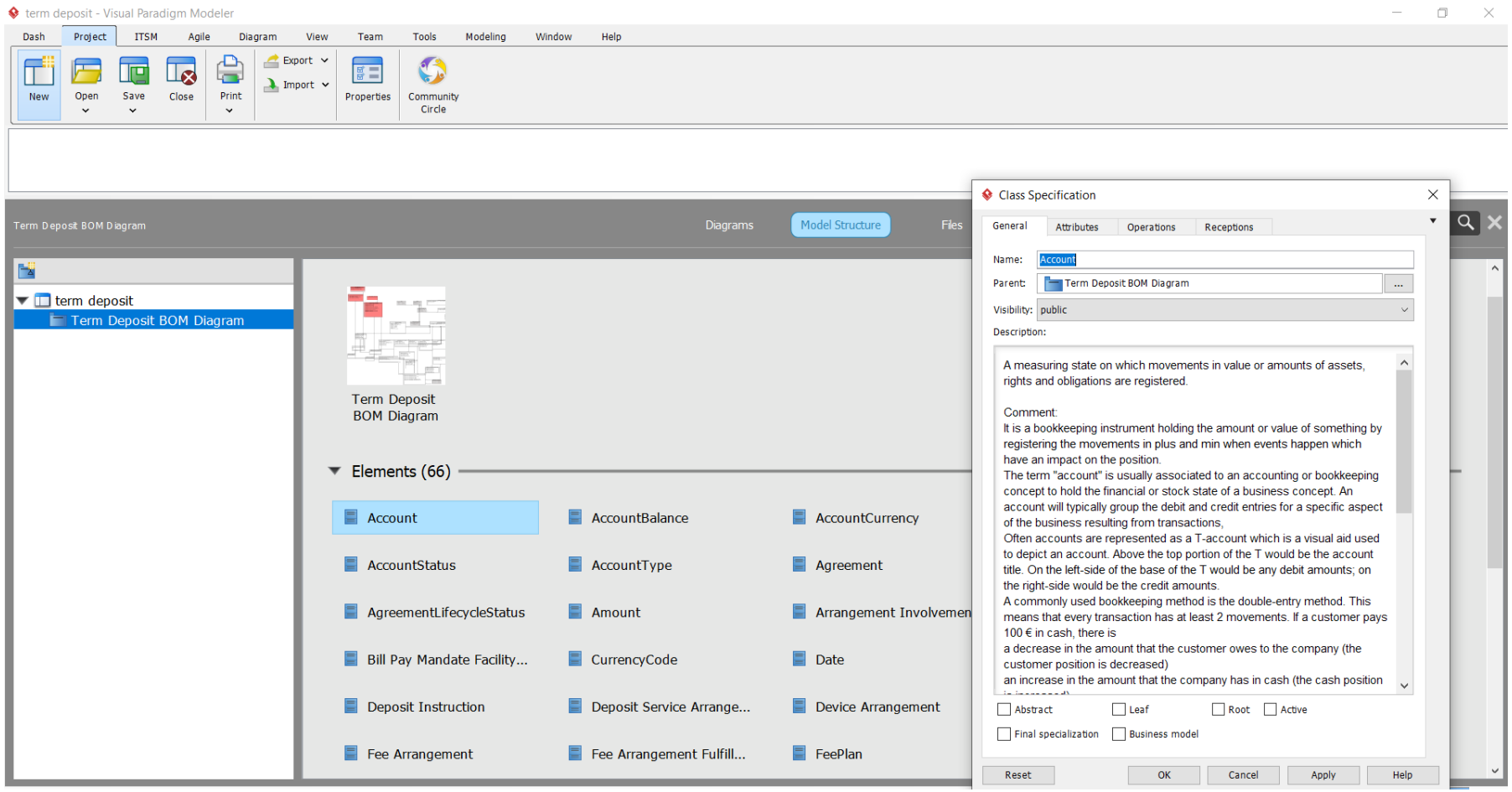
SPARX ENTERPRISE ARCHITECT SAMPLE



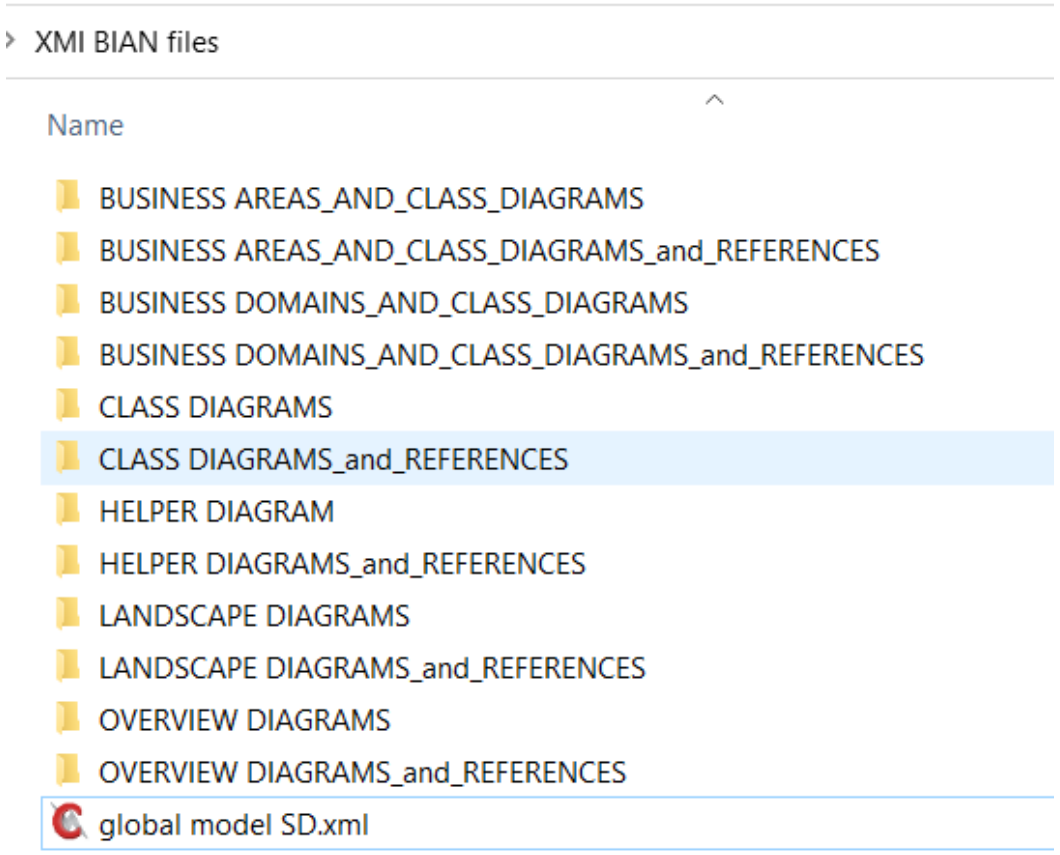
IBM INFOSPHERE DATA ARCHITECT



VISUAL PARADIGM MODELER



How are these files delivered?



Get started here

B.I.A.N.
Services GmbH

ENVIZION
INFORMATION STRATEGIES

Van Haren
LEARNING SOLUTIONS

QUESTIONS?

Thank you