BIAN™ and ArchiMate™

a focus on Information Architecture

Please stay muted and type your Questions in the righthand bar, or send them to info@bian.org
On Today’s Webinar

Patrick Derde
BIAN Architect

Marc Lankhorst
BiZZdesign, ArchiMate® Evangelist

Hans Tesselaar
BIAN Executive Director
Since 2011 I’m the Executive Director of the Banking Industry Architecture Network responsible for the day to day operations, PR, New Member Acquisition and long- and mid-term strategy. I’m also owner / director of The Netherlands based consultancy company Advance Banking Design.

Professional Skills.
Over 30 years experience in Financial Services Industry being active for Banks, Insurance companies and Pension funds.
For 15 years at different management positions within ING Insurance, from Chief Architect to Director Sourcing, Innovation and Governance (Director CIO Office) and Program Director.
Special areas of knowledge: Enterprise Architecture, Banking Transformation, IT Strategy, API and Microservices development and implementations.

Contact information:

Hans Tesselaar

Email: hans.tesselaar@bian.org
Web: www.bian.org
www.portal.bian.org
Patrick Derde is a BIAN 8.0, Cobit 5, TOGAF 9.2, ArchiMate 3.1 and SFIA 6 certified enterprise architect. He has more than 20 years experience in the different domains of enterprise architecture in financial institutions, Retail, Government, Utilities, etc. He has a master in Commercial Engineering and at the university of Leuven KULeuven and he also graduated in Insurance sciences. In 2009 he was awarded and nominated as a fellow of the university of Leuven. He is founding member and director of the Data Management Association (www.dama-belux.org), Managing Partner of Envizion (www.envizion.eu). In 2018 he started developing the BIAN Information Architecture and became a Lead Architect of BIAN (www.bian.org).
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www.bizzdesign.com
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- Managing Consultant & Chief Technology Evangelist at BiZZdesign
- 20+ years of experience as an enterprise architect, trainer, coach, project manager
- Manager of the development of the ArchiMate® language since its inception
- Regular speaker at conferences and seminars
- Lead author of books “Enterprise Architecture at Work” and “Agile Service Development”
- MSc & PhD in Computer Science
- ArchiMate®, TOGAF®, IT4IT®, and SAFe® 4 Agilist certified
• Briefly understand BIAN
• The Organization (Hans Tesselaar)
  • The Reference Architecture (Patrick Derde)
• BIAN modeling languages
  • ArchiMate (Marc Lankhorst)
  • UML Class Diagrams, Sequence Diagrams (Patrick Derde)
• BIAN Information Architecture (Patrick Derde)
• How to get involved? (Hans Tesselaar)
• Q&A
Introduction | Mission

To provide the world with the best banking interoperability architecture. To be the banking technology standard.

Central objectives for IT in the banking industry are to lower the IT and operational costs of the bank and help banks mitigate the risks associated with technology innovation. To provide a trusted roadmap for constant innovation.

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

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<th>Bangkok Bank</th>
<th>BCP</th>
<th>BB&amp;T</th>
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<th>FIRST HORIZON</th>
<th>JYSKE BANK</th>
<th>Greater Bank</th>
<th>JPMorgan Chase</th>
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<td>KB</td>
<td>M&amp;T Bank</td>
<td>PNC Bank</td>
<td>Santander Technology</td>
<td>Societe Generale</td>
<td>PBOC BANK</td>
<td>SunTrust</td>
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<td>Wells Fargo</td>
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Introduction | BIAN & Academic, Standard Bodies and Training Partners
Agenda

- Briefly understand BIAN
- The Organization
- The Reference Architecture
- BIAN modeling languages
  - ArchiMate
  - UML Class Diagrams, Sequence Diagrams
- BIAN Information Architecture
- How to get involved?
- Q&A
BIAN – Banking Industry Architecture Network - Framework

BIAN

BIAN Capstone Project API Classification Guidelines for BIAN Architecture

BIAN - RNC Open APIs for Banking

White Papers & Guidelines

www.bian.org
Portal.bian.org

Training

About the BIAN Foundation Exam

Semantic APIs

Business Scenarios

Business Capability Map

Service Domain Landscape

Data Models

Agile Digital Bank

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Digital Transformation Goals for Banks

1. Adaptive to known and unknown changes
2. Lowering Development Costs to realize Integration/Interoperability
3. Be the financial service provider in whatever Stakeholder Journey
4. Defining new Business Operating Models
5. Information Driven (operational BI, AI, Common business language)

Agile Architecture principles

Separation of concerns

Loose Coupling
Reusability
Encapsulation
Interoperability
Service Oriented
Simplicity and transparency
BIAN – Banking Industry Architecture Network - Framework

Business Capability Map

Service Domain Landscape

Business Scenarios

Data Models

Semantic APIs

BIAN Meta Model

BIAN Foundation Exam

Training

Certification

White Papers & Guidelines
BIAN metamodel in UML
Concerns to tackle

- Meaning of BIAN Concepts interpreted differently
- Level of abstraction: Architecture versus Design
- Making relationships between model elements of different models
- Portability of BIAN model
- Usability/Adoptability of BIAN by the members
- Tooling that allows to create and maintain the BIAN Models
Agenda

• Briefly understand BIAN
• The Organization
• The Reference Architecture

BIAN modeling languages
  • ArchiMate
  • UML Class Diagrams, Sequence Diagrams
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Why the ArchiMate Language?

- Get away from the “fuzzy pictures” image of architecture
- Clear communication
- No ambiguity
- Coherence
- Consistency
- Visualization
- Analysis
Architecture Models

- Use *models* to describe enterprise architectures
- Models can be checked, visualized, analyzed, managed, integrated, transformed, interpreted, and sometimes even executed

- Needed: a well-founded, practical, and vendor-independent standard for enterprise architecture modeling
What Does ArchiMate Provide?

- A **language** with concepts to describe architectures
- A **framework** to organize these concepts
- A **graphical notation** for these concepts
- A vision on **visualizations** for different stakeholders
- An **open standard** maintained by The Open Group since 2008
- Currently in version 3.1
- See [https://www.opengroup.org/archimate-home](https://www.opengroup.org/archimate-home)
Positioning ArchiMate

- Strategy models
  - Business Model Canvas
  - Balanced Score Card
  - SWOT analysis
  - ...

- Architecture models
  - ArchiMate models

- Design/implementation models
  - BPMN models
  - UML models
    - Class Diagrams
    - Sequence Diagrams
  - DMN models
  - ...

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[Logo: BIAN]
ArchiMate Framework: Aspects

- Passive structure
  - Object: 'What'
  - Book

- Behavior
  - Verb: 'How'
  - Reads

- Active structure
  - Subject: 'Who'
  - John

- Motivation
  - 'Why'
  - Knowledgeable John
ArchiMate Framework (Example Concepts)

<table>
<thead>
<tr>
<th>Layers</th>
<th>Passive structure</th>
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<tr>
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<td>Application</td>
<td>Kindle eBook</td>
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<td>Study Room</td>
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<td>Clean Desk</td>
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Aspects
Services as Binding Concept Within and Between Layers

Customer

External business service

Internal business service

External application service

Internal application service

External tech. service

Internal tech. service
BIAN metamodel in UML (partial)
BIAN metamodel in ArchiMate (partial)
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Why BIAN in ArchiMate?

• Express BIAN Standard in terms of an EA Standard
  • Joint working group of The Open Group and BIAN

• All BIAN concepts can be mapped to
  • Core elements
  • Strategy and motivation
  • Implementation and migration

• ArchiMate exchange format realizes portability

• Realizing the full power of a reference model
  • Overarching all operational models
  • Overarching all solutions
BIAN – Banking Industry Architecture Network - Framework

- Business Capability Map
- Service Domain Landscape
- Business Scenarios
- Data Models
- Semantic APIs
- White Papers & Guidelines
- www.bian.org
- Portal.bian.org
- Training

About the BIAN Foundation Exam

The BIAN Foundation level 1 Certification can be achieved by passing the BIAN Foundation Exam. The exam is Proctor-based, and to take the exam you will need an exam voucher which can be purchased via Van Haren Publishing.

Purchase an exam voucher
BIAN Business Capability Map

Useful to support
- Business Planning/Business Strategy
- Manage Change
- Create heatmaps
- Scope change
- Project to Goal alignment
- Vendor selection
- Assigning Responsibilities
- Business Service Orientation
  - ...
Useful to support

- Business Planning/Information System Strategy
- Manage Change
- Create heatmaps
- Scope change
- Project to Goal alignment
- Vendor selection
- Business Service Orientation
- Encapsulation
- Separation of Concern (MECE)
- Standardisation of Services
- ...
Useful to support
- Microservices
- Open Data
- Open API’s
- Sourcing of capabilities
- Service Orientation
- Encapsulation
- Separation of Concern (MECE)
- Standardisation of Services
- ...

Current Account SD Overview

- FunctionalPattern
- GenericArtifact
- BehaviorQualifier
- ServiceDomain
- ControlRecord
- AssetType
- AllocationObject

Current Account Control Record Diagram
Current Account BOM Diagram
Current Account API
Useful to support:

- Microservices Container
- Open Data
- Sourcing of Information
- The Esperanto for Speech Communities
BIAN Business Scenario

- All possible business activity can be modeled as a pattern of service interactions between a suitable selection of Service Domains
- BIAN provides a series of “inspirational” Business Scenarios

Useful to support
- Microservices Interaction
- Business Process definition
  - ...
Useful to support
• API design
• Open Banking API
• ...
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### ArchiMate Framework: Information Architecture

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**Aspects**
IFX = IFX: Financial electronic communications Protocol. In a nutshell: initiated to support realtime information exchange between banks, largely used in the US.

FIX = Financial Information Exchange

XBRL = eXtensive Business Reporting Language (Based on XML)

FpML = Financial Products Markup Language (Based on XML)
Information Architecture 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.
Business Object Model Pattern:
What Business Object Types to distinguish?
Business Object Model Pattern:
1) I describe “something”
   What does it mean?
   Synonyms ? Homonyms

2) What is the type of concept ?

3) Am I describing a business Object ?

4) What is the type of Business object ?

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

6) What are the concept Characteristics ?
<table>
<thead>
<tr>
<th>Attribute Category</th>
<th>Elements</th>
<th>Description</th>
<th>BIAN DOM</th>
<th>ISO20022 DOM</th>
<th>ISO20022 Repository</th>
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<tbody>
<tr>
<td>1</td>
<td>Current Account Fulfillment Arrangement Instance Record</td>
<td>The complete control record</td>
<td>CurrentAccountProduct</td>
<td>CashAccountService</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
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<tr>
<td>3</td>
<td>Current Account Fulfillment Arrangement Property Setting</td>
<td>The default initiation option setting</td>
<td>CurrenAccountProduct</td>
<td>CashAccountService</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
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<tr>
<td>4</td>
<td>Current Account Number</td>
<td>The associated account number in any suitable format (e.g. BBN)</td>
<td>CurrentAccountAcctNumberAccountIdentification</td>
<td>AccountIdentification</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
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<tr>
<td>5</td>
<td>Customer Reference</td>
<td>Reference to the account primary point of contact</td>
<td>CurrentAccountAcctAccountOwnerAccountDetails</td>
<td>AccountOwnerRole</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
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<td>6</td>
<td>Bank Branch Location Reference</td>
<td>Bank branch associated with the account</td>
<td>CurrentAccountAcctAccountBankAccountLocation</td>
<td>PayLocation</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
</tr>
<tr>
<td>7</td>
<td>Issued Device</td>
<td>Reference to an issued device associated with the facility (such as a card or key FOB)</td>
<td>TBD</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>Date Type</td>
<td>Key dates associated with the account (e.g. opening date, closing date)</td>
<td>CurrentAccountAcctAccountEvent</td>
<td>AccountClosingDate</td>
<td><a href="http://www.iso.org/iso20022.metamodel.metamodels3/DA">http://www.iso.org/iso20022.metamodel.metamodels3/DA</a>...</td>
</tr>
<tr>
<td>9</td>
<td>Date</td>
<td>Value of the date</td>
<td>CurrentAccountAcctAccountEvent</td>
<td>AccountClosingDate</td>
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<td>10</td>
<td>Account Type</td>
<td>The type of current account (e.g. checking, student, small business)</td>
<td>CurrentAccountAcctAccountType</td>
<td>AccountType</td>
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<td>11</td>
<td>Account Currency</td>
<td>The primary account currency</td>
<td>CurrentAccountAcctAccountPrimaryCurrency</td>
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<td>12</td>
<td>Tax Reference</td>
<td>Reference identifier linking the account to appropriate tax handling</td>
<td>CurrentAccountAgmtAccountReportingCurrency</td>
<td>CashAccountTaxRegulation</td>
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BIAN’s Internal Wiki and Official Homepage
- Fees (annual membership)
  - Software / Tech vendors / Integrators (250 employees or more)
    - EUR 30,000,-
  - Banks / FI’s that are not vendors
    - EUR 20,000,-
  - Software / Tech vendors / Integrators (less than 250 employees)
    - EUR 10,000,-
  - Federal Banks / Central Banks
    - EUR 10,000,-
  - Software / Tech vendors / Integrators (less than 50 employees)
    - EUR 5,000,-
  - Academic Partners
    - EUR 0,-
Questions?
BIAN References

- More about BIAN:  https://www.bian.org/
- BIAN Service Landscape in ArchiMate:  
  https://bian.org/servicelandscape-8-0/
- BIAN API Portal:  
  https://portal.bian.org/landing
- BIAN Certified Architect:  
  https://www.vhls.global/examination/exam-instructions/
BIAN Certified Architect

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5. Do the actual exam (online)
6. Score minimal 70%
7. Download your certificate and social badge

More info available at https://www.vhls.global/examination/exam-instructions/