

# BIAN

## EDITION 2019

A framework for the  
financial services industry

BIAN Edition 2019 - A framework for the financial services industry

## Other publications by Van Haren Publishing

Van Haren Publishing (VHP) specializes in titles on Best Practices, methods and standards within four domains:

- IT and IT Management
- Architecture (Enterprise and IT)
- Business Management and
- Project Management

Van Haren Publishing is also publishing on behalf of leading organizations and companies: ASLBiSL Foundation, BRMI, CA, Centre Henri Tudor, Gaming Works, IACCM, IAOP, IFDC, Innovation Value Institute, IPMA-NL, ITSqc, NAF, KNVI, PMI-NL, PON, The Open Group, The SOX Institute.

Topics are (per domain):

### IT and IT Management

ABC of ICT  
ASL®  
CATS CM®  
CMMI®  
COBIT®  
e-CF  
ISO/IEC 20000  
ISO/IEC 27001/27002  
ISPL  
IT4IT®  
IT-CMF™  
IT Service CMM  
ITIL®  
MOF  
MSF  
SABSA  
SAF  
SIAM™  
TRIM  
VeriSM™

### Enterprise Architecture

ArchiMate®  
GEA®  
Novius Architectuur  
Methode  
TOGAF®

### Business Management

*BABOK® Guide*  
BiSL® and BiSL® Next  
BRMBOK™  
BTF  
EFQM  
eSCM  
IACCM  
ISA-95  
ISO 9000/9001  
OPBOK  
SixSigma  
SOX  
SqEME®

### Project Management

A4-Projectmanagement  
DSDM/Atern  
ICB / NCB  
ISO 21500  
MINCE®  
M\_o\_R®  
MSP®  
P3O®  
*PMBOK® Guide*  
PRINCE2®

For the latest information on VHP publications, visit our website: [www.vanharen.net](http://www.vanharen.net).

# **BIAN Edition 2019**

**A framework for the financial  
services industry**

**Contributing authors:**

**Guy Rackham**

**Hans Tesselaar**

**Klaas de Groot**



# Colophon

|                       |  |
|-----------------------|--|
| Title:                | BIAN Edition 2019 – A framework for the financial services industry                      |
| Author:               | The BIAN Association   |
| Contributing authors: | Guy Rackham, Hans Tesselaar, Klaas de Groot  |
| Text editor:          | Steve Newton (Galatea)   |
| Publisher:            | Van Haren Publishing, Zaltbommel, <a href="http://www.vanharen.net">www.vanharen.net</a> |
| ISBN Hard copy:       | 978 94 018 0315 1  |
| ISBN eBook:           | 978 94 018 0316 8  |
| ISBN ePub:            | 978 94 018 0317 5  |
| Edition:              | First edition, first impression, September 2018  |
| Lay-out and DTP:      | Coco Bookmedia, Amersfoort – NL  |
| Copyright:            | © BIAN Association and Van Haren Publishing, 2018  |

## **Trademarks:**

ArchiMate® is a trademark of The Open Group

TOGAF® is a trademark of The Open Group

IFX is a Trademark of the Interactive Financial eXchange (IFX) Forum

ISO20022 is a Trademark of the International Organization for Standardization

FIBO as ontology is a joint effort of the EDM Council and the Object Management Group

This document is provided “as is”, and the BIAN Association and its members make no representations or warranties, expressed or implied, including but not limited to, warranties or merchantability, fitness for a particular purpose, noninfringement, or title; that the contents of this document are suitable for any purpose; or that the implementation of such contents will not infringe any patents, copyrights or other rights.

Neither the BIAN Association nor its members will be liable for any direct, indirect or special, incidental or consequential damages arising out of, or relating to, any use or distribution of this document unless such damages are caused by wilful misconduct or gross negligence. The foregoing disclaimer and limitation on liability do not apply to, invalidate, or limit representations and warranties made by the members to the BIAN Association and other members in certain written policies of the BIAN Association.

# Foreword

Why this book?

It's been over 10 years now that some influential players in the financial services industry bundled their forces to stop the ever growing cost for IT integration. The Banking Industry Architecture Network was born.

So now after 10 years of hard work of all members in our community we have packaged all the knowledge and insights in this book.

There's never been a more exciting time to be part of the financial services industry. The pace of the change has never been greater, the competitive landscape continues to expand beyond traditional players and emerging technologies are opening doors that allow us to find new ways to differentiate ourselves and explore the art of the possible. But none of this will be possible using traditional approaches.

At BIAN we believe that the Banking industry wastes over a billion dollars each year due to the complexity of our core technologies and integration approaches that only ignore the problem, if not add to the dilemma. This has become one of the primary reason Banks are not getting anticipated benefits from their digital transformations. We must rid ourselves of the anchor that is slowing us down which is proprietary core banking solutions that are today's legacy technologies only to be tomorrows if we do not change. We need to stop trying to predict the future but as an industry start taking responsibility to define a much more efficient and effective approach. This is where BIAN steps in. We are enabling a unique opportunity to migrate away from existing outdated core systems and move into a fully digital new world supported by Industry Standards. An open standard that establishes a utility for the industry. Virtually eliminating integration costs, leveling the playing field for anyone who develops against the standard and unleashing the power of the Cloud by giving Banks the freedom to have a choice to buy interchangeable micro services regardless who develops them.

This book covers all aspects of Architecture for the financial services industry. It should support all involved to help their organizations to enter a truly digital world.

Besides our original Service Oriented view, the authors also included our latest insight on Enterprise Architecture and give you guidance in the fast evolving API arena.

I'll hope you will find what you need to perform your architecture role at its peak.

Enjoy reading.

Steve Van Wyk

Executive Vice President, Head of Technology and Operations, PNC Financial Services Group and Chairman of the BIAN board

# Contents

**Part I** **1**

**1 INTRODUCTION** ..... **3**

- 1.1 Who this book is intended for ..... 3
- 1.2 How to use this book ..... 3
- 1.3 BIAN, the Banking Industry Architecture Network ..... 4
- 1.4 The BIAN Service Landscape, an overview ..... 5

**2 BIAN'S PRIMARY PURPOSE AND APPROACH** ..... **7**

- 2.1 Introduction ..... 7
- 2.2 A different approach to a well-established problem ..... 8
  - 2.2.1 BIAN's capability view versus a traditional process view ..... 8
- 2.3 BIAN in the context of other standard efforts in the industry ..... 10
  - 2.3.1 Standardization in the financial services industry ..... 11
  - 2.3.2 Support for industry standards ..... 12

**Part II** **15**

**3 UNDERSTANDING THE THEORY** ..... **17**

- 3.1 Introduction ..... 17
- 3.2 Some key terms/concepts ..... 18
- 3.3 Business capability partitions ..... 19
- 3.4 Modeling real world behaviors ..... 20
- 3.5 The BIAN standard can be interpreted in different situations ..... 21
- 3.6 How to combine a static and a dynamic view in your model ..... 22



|       |  |    |
|-------|--|----|
| 3.6.1 | The difference between capability model views (static) and process model views (dynamic) . . . . . | 23 |
| 3.6.2 | A capability (static) model is better suited for defining a standard . . . . .                     | 24 |
| 3.6.3 | Defining canonical capability partitions . . . . .   | 25 |
| 3.6.4 | Why use capabilities as the building blocks for the BIAN model? . . . . .                          | 25 |
| 3.6.5 | Business capability, business capability building block or business capacity? . . . . .            | 26 |
| 3.6.6 | Picking the right model view for a technical solution . . . . .                                    | 27 |
| 3.7   | BIAN's model view on the business . . . . .  | 28 |
| 3.7.1 | Business behavior is modeled using Service Domains . . . . .                                       | 28 |
| 3.7.2 | Service Domain interactions . . . . .  | 29 |
| 3.8   | What is the purpose of service orientation and how does BIAN apply it? . .                         | 29 |
| 3.9   | The BIAN Framework. . . . .  | 30 |
| 3.9.1 | The BIAN Framework – an overview. . . . .  | 30 |

## **4 THE BIAN SERVICE LANDSCAPE . . . . . 33**

|       |  |    |
|-------|--|----|
| 4.1   | Introduction . . . . .   | 33 |
| 4.2   | High-level Service Domain definition . . . . .                                 | 37 |
| 4.3   | The BIAN Service Domains. . . . .  | 39 |
| 4.3.1 | The Service Domain Control Record . . . . .                                    | 39 |
| 4.3.2 | Rightsizing the BIAN Service Domain . . . . .                                  | 41 |
| 4.3.3 | Translating BIAN Service Domain designs into software specifications . . . . . | 42 |
| 4.3.4 | The BIAN Service Domain specification. . . . .                                 | 43 |
| 4.3.5 | Service Operation details. . . . .   | 44 |
| 4.3.6 | The BIAN Business Scenario . . . . .   | 45 |
| 4.3.7 | Wireframe models. . . . .  | 49 |
| 4.4   | The evolving BIAN Framework. . . . .   | 52 |
| 4.5   | Statement of coverage by the BIAN standard . . . . .                           | 53 |

## **Part III 55**

## **5 HOW TO APPLY THE BIAN STANDARD . . . . . 57**

|     |  |    |
|-----|--|----|
| 5.1 | Introduction . . . . .   | 57 |
| 5.2 | BIAN's alignment to TOGAF . . . . .                                      | 57 |
| 5.3 | Mapping BIAN to other industry standards (e.g. IFX, ISO 20022) . . . . . | 58 |
| 5.4 | Other mapping considerations . . . . .                                   | 59 |
| 5.5 | Translating BIAN 'down the stack' . . . . .                              | 60 |

|          |  |     |
|----------|--|-----|
| 5.5.1    | Translating at the business architecture level . . . . .                                 | 60  |
| 5.5.2    | Translating at the information architecture level. . . . .                               | 60  |
| 5.5.3    | The Control Record can be modeled . . . . .  | 63  |
| 5.5.4    | Translating at the application level. . . . .  | 64  |
| 5.5.5    | Translating at the infrastructure level . . . . .  | 65  |
| 5.5.6    | Translating summary . . . . .  | 67  |
| 5.6      | Applying BIAN Service Domains in different environments . . . . .                        | 68  |
| 5.6.1    | Using BIAN specifications as a high-level implementation design. . . . .                 | 68  |
| 5.6.2    | Service-oriented architectures and the benefits of<br>'externalization' . . . . .        | 69  |
| 5.6.3    | Defining BIAN's concept of 'externalization' . . . . .                                   | 70  |
| 5.6.4    | Externalization in business application design . . . . .                                 | 73  |
| 5.6.5    | Business to technical architecture – mapping Service Domains. . . . .                    | 74  |
| 5.6.6    | Business architecture versus systems architecture views of a<br>Service Domain . . . . . | 76  |
| 5.6.7    | Service Domain clusters. . . . .   | 77  |
| 5.6.8    | Mapping implementation level functionality to a<br>Service Domain . . . . .              | 79  |
| 5.6.9    | Possible Service Domain functional specializations . . . . .                             | 81  |
| 5.6.10   | Extending the functional definition of the Service Domain . . . . .                      | 81  |
| 5.6.11   | Mapping Service Operations to messages . . . . .   | 82  |
| 5.7      | Using the BIAN models to define (open) APIs. . . . .                                     | 88  |
| 5.7.1    | Semantic APIs . . . . .  | 88  |
| 5.8      | Service-based access . . . . .   | 91  |
| 5.9      | Applying BIAN in different technical architectures . . . . .                             | 95  |
| 5.9.1    | Level 1 - Conventional (legacy/core) system rationalization . . . . .                    | 96  |
| 5.9.2    | Level 2 - Host renewal/ESB integration and application/system<br>assembly . . . . .      | 100 |
| 5.9.2.1  | Host alignment . . . . .   | 101 |
| 5.9.2.2  | Multiple candidate hosts . . . . .   | 103 |
| 5.9.3    | Level 3 - Loose coupled distributed/cloud systems . . . . .                              | 105 |
| 5.9.3.1  | Service information precision. . . . .   | 107 |
| 5.10     | Support for emerging industry approaches. . . . .  | 109 |
| 5.10.1   | Application Program Interfaces (APIs) . . . . .  | 109 |
| 5.10.2   | Micro-services . . . . .   | 110 |
| 5.11     | Using BIAN Service Domain partitions to define APIs . . . . .                            | 111 |
| 5.11.1   | Cross-technical platform solutions. . . . .  | 113 |
| 5.11.1.1 | Specifying point solution requirements – accelerator<br>packs . . . . .                  | 113 |
| 5.11.2   | Business case development . . . . .  | 115 |
| 5.11.3   | Select and amend Business Scenario(s) . . . . .  | 115 |
| 5.11.3.1 | Develop a Wireframe model. . . . .   | 117 |
| 5.11.4   | Define the implementation requirements . . . . .   | 117 |

- 5.11.4.1 Feature checklists . . . . . 117
- 5.11.4.2 Service Operations . . . . . 118
- 5.11.4.3 Business Scenarios and Wireframes . . . . . 119
- 5.11.5 Map and assess existing systems/candidate packages . . . . . 121
  - 5.11.5.1 Functional coverage . . . . . 121
  - 5.11.5.2 Service enablement . . . . . 122
- 5.11.6 Candidate system ‘hygiene factor analysis’ . . . . . 123
  - 5.11.6.1 More general considerations when implementing point solutions . . . . . 124
- 5.11.7 Customization/development . . . . . 125
- 5.11.8 Migration planning . . . . . 125
- 5.12 Support for incremental adoption/migration . . . . . 126
  - 5.12.1 Using BIAN as an API ‘inventory’ . . . . . 126
  - 5.12.2 API inventory . . . . . 129
  - 5.12.3 Three levels of architectural alignment . . . . . 131
    - 5.12.3.1 Direct to core . . . . . 133
    - 5.12.3.2 Wrapped host . . . . . 134
    - 5.12.3.3 Micro-service architecture . . . . . 136
  - Limitations . . . . . 137
- 5.13 Case study . . . . . 138

**Part IV 139**

**6 ASSEMBLING A REPRESENTATIVE ENTERPRISE BLUEPRINT . . . . . 141**

- 6.1 Building the enterprise blueprint for a bank . . . . . 143
  - 6.1.1 Select Service Domains that match the enterprise activity . . . . . 144
  - 6.1.2 Adapt the general BIAN specifications as necessary . . . . . 145
  - 6.1.3 Assemble Service Domains in a structure matching the enterprise . . . . . 145
  - 6.1.4 Matching the enterprise segmentation approach . . . . . 147
- 6.2 Case study . . . . . 148

**7 AN ENTERPRISE BLUEPRINT IS A FRAMEWORK FOR ANALYSIS . . . . . 151**

- 7.1 The BIAN specifications can be augmented . . . . . 152
  - 7.1.1 Feature attribution . . . . . 153
- 7.2 Track business and technical performance . . . . . 156
- 7.3 Overlay resources to identify shortfalls . . . . . 156
- 7.4 Analysis supported by the enterprise blueprint . . . . . 157
- 7.5 Linking between business and technical assessments . . . . . 158

**APPENDIX 1: SERVICE DOMAIN DESCRIPTIONS (JANUARY XX8) ..... 161**

**APPENDIX 2: BIAN AND TOGAF'S ADM PHASES ..... 181**

- A2.1 Relating BIAN to the phases of the ADM ..... 181
  - A2.1.1 Preliminary phase ..... 182
  - A2.1.2 Architecture vision ..... 182
  - A2.1.3 Business architecture ..... 182
  - A2.1.4 Information systems architecture ..... 183
  - A2.1.5 Technology architecture ..... 183
  - A2.1.6 Opportunities and solutions ..... 184
  - A2.1.7 Migration planning ..... 184
  - A2.1.8 Implementation governance ..... 184
  - A2.1.9 Architecture change management ..... 184
- A2.2 Requirements management ..... 185
- A2.3 Relating BIAN to TOGAF guidelines and techniques ..... 185
  - A2.3.1 Applying the ADM at different enterprise levels ..... 185
  - A2.3.2 Using TOGAF to define and govern SOAs ..... 185
  - A2.3.3 Architecture principles ..... 186
  - A2.3.4 Architecture patterns ..... 187
  - A2.3.5 Interoperability requirements ..... 187
- A2.4 BIAN and the TOGAF Architecture Content Framework ..... 187
  - A2.4.1 Deliverables, artifacts and building blocks ..... 188
  - A2.4.2 Mapping the BIAN deliverables to the TOGAF Content Metamodel ..... 188

**APPENDIX 3: THE BIAN ORGANIZATION ..... 191**

- A3.1 General Assembly ..... 191
- A3.2 Board of Directors ..... 192
- A3.3 Secretariat ..... 192
- A3.4 Working Groups ..... 192
- A3.5 BIAN special projects ..... 193
- A3.6 Communication between a member and BIAN ..... 193
- A3.7 Official roles of members ..... 193
- A3.8 BIAN events and Chapter Meetings ..... 194
  - A3.8.1 Scope and content ..... 194
  - A3.8.2 Where should members participate? ..... 194
  - A3.8.3 Location and frequency ..... 195



# List of figures

|  |    |
|--|----|
| Figure 1: Components of the BIAN Service Landscape   | 5  |
| Figure 2: Comparing enterprise and city planning   | 8  |
| Figure 3: Building without a plan – shanty town and application portfolio                      | 9  |
| Figure 4: Migrating to a well architected application map                                      | 10 |
| Figure 5: BIAN in the context of other standards   | 11 |
| Figure 6: The central role of ISO 20022  | 13 |
| Figure 7: Design principles and techniques   | 17 |
| Figure 8: Static structures and dynamic use  | 24 |
| Figure 9: The Service Landscape framework  | 34 |
| Figure 10: The BIAN Service Landscape  | 36 |
| Figure 11: Periodic table and different BIAN Service Landscape views                           | 38 |
| Figure 12: Key properties of BIAN Service Domains  | 40 |
| Figure 13: Clarifying points for determining the correct scope                                 | 40 |
| Figure 14: Simple Business Scenario with rules   | 46 |
| Figure 15: Example Business Scenario in MagicDraw  | 48 |
| Figure 16: A payment transaction mapped on a Wireframe view                                    | 50 |
| Figure 17: An example of the Service Operation connections for a Service Domain                | 51 |
| Figure 18: A Wireframe showing the main Service Operations for a collection of Service Domains | 51 |
| Figure 19: Levels of completion of Service Domains   | 52 |
| Figure 20: Other mapping considerations  | 60 |
| Figure 21: The association between the BIAN standard and prevailing model views                | 66 |
| Figure 22: Mapping Service Domains down the stack  | 67 |
| Figure 23: Point solutions environment: Legacy re-alignment                                    | 71 |
| Figure 24: Mapping business applications to Service Domains                                    | 76 |
| Figure 25: Aligning utility and common solution application modules to Service Domains         | 77 |
| Figure 26: Mapping Service Landscape with shared and common solutions                          | 78 |
| Figure 27: Example cluster for a retail financial services business application                | 80 |
| Figure 28: Four types of input and output parameters   | 87 |
| Figure 29: Semantic API design scheme  | 90 |

|   |     |
|---|-----|
| Figure 30: Design topics included in the API scheme   | 91  |
| Figure 31: Design topics selected for four typical types of exchange  | 92  |
| Figure 32: BIAN action terms  | 93  |
| Figure 33: Default action term by functional pattern  | 94  |
| Figure 34: Example of a BIAN API exchange   | 94  |
| Figure 35: Service Domain broken into a functional core and a service wrapper                                     | 96  |
| Figure 36: Using BIAN Service Domain partitions for comparisons   | 97  |
| Figure 37: Externalizing Service Domains in an application  | 99  |
| Figure 38: The use of BIAN Service Domains to define Service Domains to<br>define a service directory for the ESB | 101 |
| Figure 39: ESB solutions integrating host and cloud-based service solutions                                       | 104 |
| Figure 40: Advanced 'loose coupled' development   | 105 |
| Figure 41: Advanced cloud technology solutions  | 106 |
| Figure 42: Mapping BIAN to a cloud-based environment  | 108 |
| Figure 43: BIAN Service Domains related to (micro)-services   | 111 |
| Figure 44: Cloud-based services for a relationship management Service Domain                                      | 112 |
| Figure 45: Example Business Scenario with rules   | 114 |
| Figure 46: A payment transaction mapped on a Wireframe view   | 116 |
| Figure 47: The completed payments area Wireframe (example)  | 118 |
| Figure 48: Feature list for a Service Domain - Customer Credit Rating   | 119 |
| Figure 49: Mapping candidate systems to the feature list of a Service Domain                                      | 120 |
| Figure 50: Overlaying current systems on a Wireframe model  | 122 |
| Figure 51: Example hygiene factor analysis  | 124 |
| Figure 52: The BIAN Service Landscape – First API Inventory   | 128 |
| Figure 53: Wave 1, Service Landscape coverage   | 130 |
| Figure 54: Offer Management – scoping statement   | 131 |
| Figure 55: Offer Management Wireframe   | 132 |
| Figure 56: Summary of the API sophistication levels   | 133 |
| Figure 57: Level 1 Layout   | 133 |
| Figure 58: Level 2 layout   | 135 |
| Figure 59: Level 3 Layout   | 136 |
| Figure 60: The scope of BIAN's M4 Bank model  | 143 |
| Figure 61: From the conventional Service Landscape to the value chain layout.                                     | 142 |
| Figure 62: Three steps in developing an enterprise blueprint  | 144 |
| Figure 63: Two value chain elements representing different lines of business                                      | 146 |
| Figure 64: Two lines of business connected to a regional operation  | 147 |
| Figure 65: M4Bank with local units, regional and head office reporting  | 147 |
| Figure 66: Mapping product and customer types to segmentation views   | 148 |
| Figure 67: Enterprise analysis: a measurement framework   | 152 |
| Figure 68: Enterprise analysis: a measurement framework for cost of staff   | 152 |
| Figure 69: Attribution quadrant with an attributed value chain element  | 155 |
| Figure 70: Example approaches associated with an attribution  | 154 |
| Figure 71: Systems and operational cost and performance measures  | 156 |

|   |     |
|---|-----|
| Figure 72: Overlay of systems on an enterprise blueprint revealing shortfalls         | 157 |
| Figure 73: BIAN designs applied to point and enterprise solution                      | 157 |
| Figure 74: Using the enterprise blueprint for planning & analysis                     | 158 |
| Figure 75: BIAN designs help bridge between point solutions and enterprise viewpoints | 181 |
| Figure 76: Relating BIAN to the phases of the ADM                                     | 186 |
| Figure 77: Different areas of an enterprise   | 188 |
| Figure 78: Deliverables, artifacts and building blocks                                | 189 |
| Figure 79: Mapping BIAN deliverables onto the TOGAF Content Metamodel                 | 191 |





# PART I



# 1

## Introduction

### ■ 1.1 WHO THIS BOOK IS INTENDED FOR

This book is intended for those enterprise, business and solution architects in the financial services industry (FSI) who are interested in applying the BIAN Industry Standard in their organization. The authors of the book expect the readers to have an in-depth knowledge of IT architectural principles and methodologies.

For those architects and organizations already familiar with the TOGAF framework, we have added Appendix 2 which describes how one can apply the BIAN standard with the TOGAF framework.

### ■ 1.2 HOW TO USE THIS BOOK

This book will provide you with in-depth knowledge to help you understand the full construct of BIAN artifacts, how to apply them and how you can contribute to help the BIAN standard fulfill your (organization's) needs. We will start with a short introduction to the BIAN organization, its goals, the deliverables and the future state.

Due to the constant development and evaluation of the BIAN models, additions to this publication will be publicly available at the BIAN homepage ([www.bian.org](http://www.bian.org)).

This initial chapter gives you a high-level overview of all the topics that we will discuss in more detail in the designated chapters that follow:

- Chapter 2: BIAN's primary purpose and approach;
- Chapter 3: Understanding the theory;
- Chapter 4: The BIAN Service Landscape;
- Chapter 5: How to apply the BIAN standard;
- Chapter 6: Assembling a representative enterprise blueprint;
- Chapter 7: An enterprise blueprint is a framework for analysis.

## ■ 1.3 BIAN, THE BANKING INDUSTRY ARCHITECTURE NETWORK

The Banking Industry Architecture Network (BIAN) is a global, not-for profit association of banks, solution providers, consultancy companies, integrators and academic partners with the shared aim of defining a semantic standard for the banking industry<sup>1</sup> covering almost all the well-known architectural layers.

The BIAN was formed in 2008 by a group of banks and solution providers with the shared aim of defining a semantic Service Operation standard for the financial services industry. At a later stage other standards bodies, like ISO and IFX, joined along with some academic partners.

BIAN's expectation is that a standard definition of business functions and service interactions that describe the general construct of any bank will be of significant benefit to the industry. When compared to an increasing number of proprietary designs, a dedicated industry standard, like BIAN, provides the following main benefits:

- It enables the more efficient and effective development and integration of software solutions for and between banks;
- It significantly lowers the overall integration costs;
- It improves the operational efficiency within and between banks and provides the opportunity for greater solution and capability re-use within and among banks;
- It supports the current need for more industry integration and collaboration through the usage of (open) APIs;
- It supports the adoption of more flexible business service sourcing models and enhances the evolution and adoption of shared third party business services;
- It supports FinTechs and RegTechs to gain an easy insight in the complex financial services industry structure.

BIAN refers to the collection of designs that makes up its industry standard known as the BIAN Service Landscape. The BIAN Service Landscape's development is iterative, relying on the active contribution of industry participants to build consensus and encourage adoption. The BIAN Association coordinates the evolution of the BIAN Service Landscape on behalf of its members with regular new version releases and seeks feedback to help continually expand and refine its content.

It is helpful to understand that BIAN Working Groups govern Service Domains. Each Service Definition Working Group covers an associated area of business expertise. The scope covered by individual Working Groups is defined in their charter so that, collectively, Working Groups cover the whole landscape with no overlaps between them.

—

1 This book refers to banking, but all examples and models are applicable for other sectors in the Financial Services Industry.

The governance of Service Domains within a business area is assigned to a Working Group. The Working Group is then responsible for the initial specification and any subsequent updates to its assigned collection of Service Domains. This implies the content creation is driven by the BIAN members using their experts' knowledge and experience.

## ■ 1.4 THE BIAN SERVICE LANDSCAPE, AN OVERVIEW

The BIAN Architecture is a layered/componentized one. These layers and components are identified in figure 1.

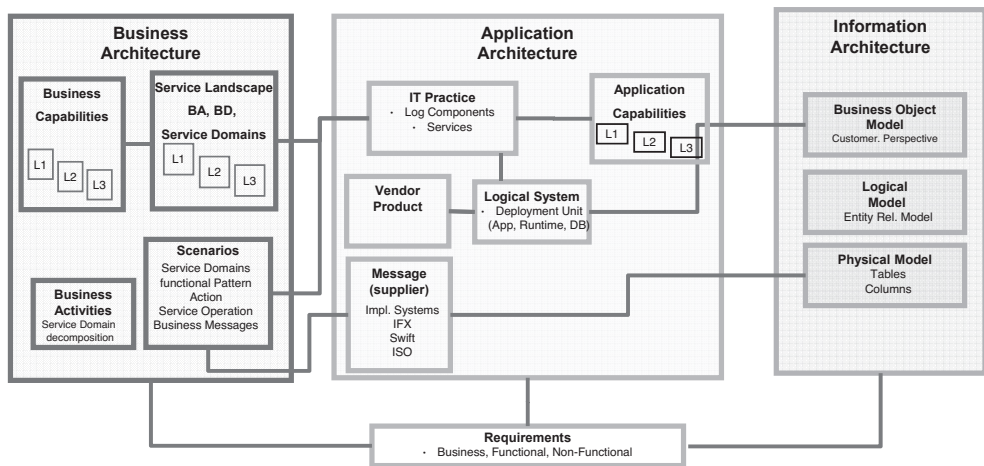


Figure 1: Components of the BIAN Service Landscape

This set of architectural artifacts is defined as the BIAN Service Landscape, it includes:

- The BIAN Meta Model, based on the ISO 20022 Meta Model;
- The BIAN Business Vocabulary;
- The high-level BIAN reference map: the BIAN Service Landscape;
- The BIAN Business Architecture;
- The BIAN Business Capability Model;
- The BIAN Service Domain Definitions;
- The BIAN Service Operations Definitions;
- The BIAN Business Scenario Definitions;
- The BIAN Application Architecture;
- The BIAN Application Capabilities (also called: Vendor Agnostic IT Model);
- The BIAN API/Message Definitions;
- The BIAN Information Architecture;
- The BIAN Business Object Model, fully aligned with ISO 20022;
- The BIAN API Classification Guideline.

The BIAN standard is published in a UML repository, as well as an HTML read-only version which is freely available on the BIAN website (<https://www.bian.org/>). In addition, a collection of supporting documents is maintained and released with each revised release of the BIAN standard.

The following options are in place to collect and process your feedback:

- BIAN members are encouraged to provide feedback by using the BIAN Wiki, to the Architectural Committee, Architecture Framework & Foundation Working Group or via their representatives.
- Non-members are invited to post their suggestions by using the BIAN website [www.bian.org](http://www.bian.org).
- Feedback can also be posted to [how-to.guide@bian.org](mailto:how-to.guide@bian.org).

# 2 BIAN's primary purpose and approach

## ■ 2.1 INTRODUCTION

Since 2008 the financial services industry has faced a series of challenges in respect to their business models, customer relations and information technology. The desired business changes in banks are often slowed down by an inflexible and complex systems landscape. The primary reason for the difficult transformation and modernization of that landscape is the fact that the components are tightly coupled.

The BIAN Association strives to enhance the flexibility and agility of financial services systems by improving the integration with an architecture that is based on services. Those financial services-specific semantic services are the cornerstone upon which to achieve this flexibility. The value of BIAN is the standardization of those functional services based on a well drafted architecture framework with elements carefully chosen from industry best practices. It is the ambition of the BIAN Association to achieve a consensus on the service definition among leading banks and providers in the financial services industry, which in due time should lead to standardized services.

The goal of the BIAN Association is to develop the most important content, concepts and methods in interoperability, supporting the aim of lower integration costs in the financial services industry and to facilitate business innovation and agility by:

- Providing an architecture framework with all of the necessary elements, tools and methodologies for a sustainable operational model through the adoption of and alignment to available market standards.
- Focusing on the definition of semantic services and/or API-definitions to improve the semantic integration of the financial services landscapes.
- Enabling the financial services industry to develop and run successfully a loosely coupled environment.
- Acceptance by the members of the BIAN Association and the industry of the way that the requirements will be implemented by both financial institutions and solution suppliers, resulting in the defined services becoming the de-facto-standard in the financial services industry.



## 2.2 A DIFFERENT APPROACH TO A WELL-ESTABLISHED PROBLEM

Many financial services industry participants, including the founding members of the BIAN Association, have frequently observed a common and enduring problem: excessive complexity in most application portfolios. This complexity results in inflexible/unresponsive systems, inflated enhancement, increasing maintenance and operational costs, and an inability to leverage rapidly evolving advanced solutions, technologies, approaches and business models.

The BIAN Association was set up to address this issue by developing a common industry standard to define functional partitions and Service Operations that could be used inside any financial organization resulting in the anticipated benefits already noted. However, the objective of the BIAN Association raises a key question: “Why should the BIAN model and approach be successful in addressing application portfolio and interoperability complexity?”

### 2.2.1 BIAN’s capability view versus a traditional process view

At the core of the proposition of the BIAN Association is the adoption of a capability-oriented approach to architecting the systems that support the financial organization. This approach is fundamentally different from the prevailing ‘process-centric’ designs. To highlight this critical difference, a comparison can be made with architectural disciplines when applied to the highly tangible problem of designing the layout of a city as opposed to the much less tangible design of a commercial enterprise such as a financial institution, see figure 2.

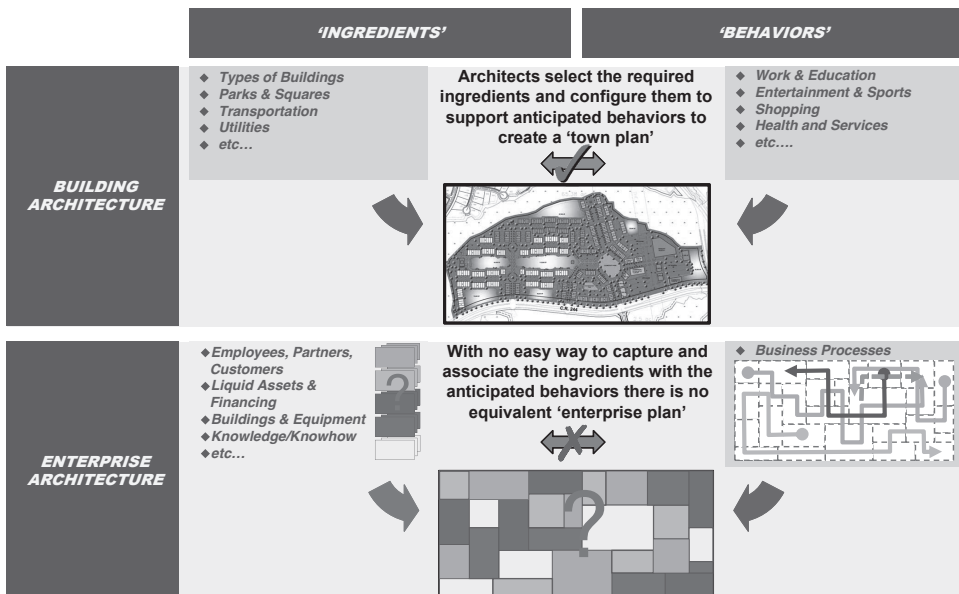


Figure 2: Comparing enterprise and city planning

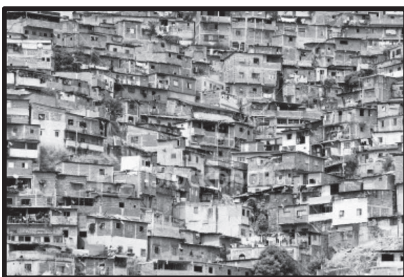
Any design is a combination of the ingredients that are used and the behaviors that the design is intended to support. The ingredients relate to static or persistent things that are 'deployed' and the behaviors refer to more dynamic patterns of desired responses to anticipated events or triggers. An architect develops an overall design based on an understanding as to how the ingredients need to be configured to support the intended behaviors. In the case of the town planner this is a town plan. The ingredients seen in the town plan are the buildings, parks and communications infrastructure that need to be in place to support the anticipated behaviors of the town's inhabitants. These behaviors could be traced as journeys or 'days in a life' on the town plan.

Comparing building architecture as practiced by the town planner and enterprise architecture that might eventually be used to design the applications for a bank reveals an important shortfall in the arsenal of tools for business architects.

The ingredients that make up the bank are not tangible things like buildings and roads, they are the far less tangible business capabilities that a bank must establish in order to execute business. The behaviors that are modeled as journeys through the town are the business processes that the bank supports. Enterprise/business architects have extensive experience in modeling processes. The key issue for the business architect is defining the generic capability building blocks that they should select and configure to create the equivalent of the town plan for the bank. These capabilities can, in different combinations and sequences, then support those more familiar processes.

The result of building without a governing town plan is a shanty-town – buildings and roads are put up as and when they are needed and, over time, chaos is inevitable. Without a town plan for the business, systems built to meet the immediate needs of the processes as they are today will eventually lead to the same inevitable chaos in terms of overlapping and redundant applications, as shown in figure 3.

*A city where new construction is not coordinated with a town plan...*



*An enterprise where application development is not coordinated with an enterprise plan...*

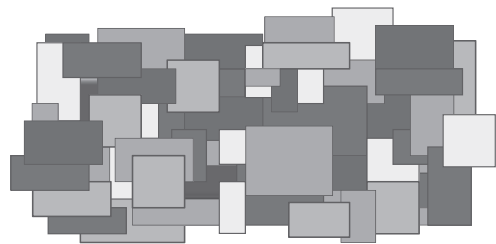


Figure 3: Building without a plan – shanty town and application portfolio

The problem of application complexity goes much further than the obvious problem of redundancy in the overlapping applications. It is greatly exacerbated when the