

# Banking Industry Architecture Network

## **BIAN Version 8.0** **Release Notes**

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## 1 Overview of Release 8.0

The V8.0 release contains substantial updates to the BIAN Metamodel and content.

### 1.1 API Waves 1-4

Version 7.0 contained content for API Waves 1 and 2. Version 8.0 contains reworked content for Waves 1 & 2 and new content for Waves 3 & 4 covering Corporate Banking, Banking Relations and Wealth Management. There has been a significant change in the definition and mapping of Action Terms to the Service Domain Functional Patterns. These changes were required to improve the mapping to REST. As before the expanded content includes a new and more robust set of extended service operations and a greatly expanded information model based on ISO 20022.

### 1.2 Steep Increase in the Creation of Bank-verified Content

Version 7.0 was the first version with a significant part of purpose-built content, including extended service operations and a much-expanded information model. It also included some minor metamodel updates, some changes to existing service domains, a few new service domains, new business scenarios, and an incremental update to the How-to Guides.

Version 8 has seen a significant participation of the Working Groups in defining content, which made it possible to have a steep increase in the documented Business Capabilities, Business Scenarios and Service Domain descriptions, notably Control Records and Service Operations.

From Version 8 onwards the model is being documented in BiZZdesign, BIAN's new repository. It currently includes the Business Capability Model, the Business Scenario Model with Service Domain descriptions and the Business Object Model.

Descriptions of Service Operations and Control Records are in Excel. Migration to BiZZdesign and integration is foreseen in the next six months.

### 1.3 Business Capability Model

The BIAN Business Capability Model, which the BIAN Business Capability Models Working Group has produced, introduces a new dimension to the BIAN specifications. Version 7.0 was the first version of the BIAN standard that included the Business Capability Model as an official release artifact. The Version 8.0 published in this release improves upon the previous version by ensuring adherence to the modeling principles, consistency and capability decomposition to level three in most cases. There have been numerous Business Capabilities added, moved or removed.

### 1.4 BIAN Modeling Language and Notation

The *BIAN Metamodel* Architectural concepts are in version 8.0 expressed in the ArchiMate 3.0 architecture modelling language. It gives Banking Enterprise Architects who are familiar with the ArchiMate Language a more precise understanding of the BIAN defined metamodel elements. In previous versions all model elements were

expressed in UML Class Diagram notation with stereotyping. The ArchiMate language is more rich in expressing the context of the defined BIAN metamodel elements.

The **BIAN Reference Architecture** is expressed in a combination of **ArchiMate** and **UML**. The BIAN service landscape is expressed in ArchiMate language. Business Object Model and Business Scenarios are expressed in UML, The Business Object Model is expressed in UML Class Diagram, the Business Scenarios are expressed in UML Sequence diagrams.

## 1.5 Digital Repository in HTML

A fundamental change on the look and feel of the digital repository has been made. The HTML version of BIAN V8.0 offers a starting page from where navigation can start. Also a search function allows to find elements in the digital repository.

## 2 Metamodel Updates

The v7.0 Metamodel contained only a minor update of the portion of the Metamodel that supports capability modeling. The minor update was worked out during a session of the Business Capability Models Working Group in Palo Alto, California in February 2018. The specific updates are:

- The FunctionalPlan metaclass was renamed to FunctionalMapping.
- In Version 6.0 there was a 1-to-1 association between FunctionalPlan and BusinessScenario; this has been changed to a 0..1-to-0..1 association, meaning that the Metamodel is more flexible in that it no longer demands a direct 1-to-1 correspondence between FunctionalMappings and BusinessScenarios.

V8.0 has not required any further changes to the Metamodel though there maybe minor changes and additions as the migration to BiZZdesign is completed. In particular enhancements to the BIAN content arising from the Semantic API initiative may be required.

## 3 Information Model Updates

BIAN v5.0 introduced a skeletal information model that in essence consists of unelaborated, general data checklists that were algorithmically pattern-generated for each service domain according to the service domain's functional pattern. Each service domain has such a checklist for the properties of its control record and for the input and output messages of its generic, auto-generated service operations.

Version 6.0 preserved these general checklists, but also began the process of superseding them with a purpose-built information model whose scope covered the control records for the priority service domains for API Wave 1.<sup>1</sup>

### 3.1 Information Model Version 7.0

Version 7.0 expanded the information model's scope of coverage based on the requirements of API Waves 2 and 3, and greatly expanded the depth of the coverage of API Wave 1. The breadth and depth of coverage will continue to be expanded iteratively over time. Version 7.0 included two main artefacts as below:

#### 3.1.1 Extended ISO 20022 Business Model

The information model was built by BIAN using the Magic Draw modelling tool, starting with the official ISO 20022 Business Model and adding elements where needed. We refer to this information model as the Extended ISO 20022 Business Model.

All elements in the Extended ISO 20022 Business Model that are BIAN additions are marked with Provisional registration status. BIAN is submitting the additions – and some changes – to ISO via an established process that will result in an eventual update to the official ISO 20022 Business Model.

The amount of new content in the Extended ISO 20022 Business Model, as compared with what was present in the model for the Version 6.0 release, is considerable. Whereas for Version 6.0 the model added 44 diagrams and 64 classes to the official ISO 20022 Business Model, Version 7.0 adds 118 diagrams and 220 classes; in other words, since the Version 6.0 release we have added 74 diagrams and 156 classes.

#### 3.1.2 Control Record Mappings

Version 6.0 included basic mappings of the primary Wave 1 service domains' control records to the Extended ISO 20022 Business Model. Version 7.0 adds basic control record mappings for the primary Wave 2 and Wave 3 service domains. Basic mappings are expressed as UML models that are part of the Extended ISO 20022 Business Model.

Where possible, BIAN control records are mapped to elements of the official ISO 20022 Business Model. Where necessary, BIAN has added new elements to serve as targets for the mappings. In a smaller number of cases, the extended model changes something in the pre-existing ISO 20022 elements. The Extended ISO 20022 Business Model is the result of these additions and changes.

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<sup>1</sup> A service domain is considered primarily for an API wave if it is involved in business-to-business (B2B) or business-to-consumer (B2C) information exchanges in at least one of that API wave's business scenarios.



For Version 7.0, BIAN has greatly expanded the lists of properties for the control records, and has defined mappings of the more detailed control record properties to the Extended ISO 20022 Business Model. In order to map these detailed properties to the Extended ISO 20022 Business Model, it was necessary to greatly expand the extended model's depth of coverage of Wave 1; this was the main driver of the expansion of the extended model's Wave 1 coverage.

The detailed mappings are expressed as tables in Excel files. The mapping tables map the primary Wave 1 service domains' control record properties to the Extended ISO 20022 Business Model. As there are 16 service domains that are primary for wave 1, Version 7.0 includes 16 of these detailed mapping tables. The 16 service domains for which Version 7.0 provides detailed mapping tables are:

- Consumer Loan
- Contact Dialogue
- Correspondence
- Credit/Charge Card
- Current Account
- Customer Offer
- Customer Reference Data Management
- Customer Workbench
- Document Services
- Issued Device Administration
- Lead/Opportunity Management
- Location Data Management
- Party Authentication
- Party Data Management
- Party Lifecycle Management
- Product Broker Agreement

## **3.2 Information Model Version 8.0**

Version 8.0 continues the expansion of the information model reflecting further mapping to ISO and additional content from the waves 3 & 4 semantic API content. This version includes two main artefacts:

### **3.2.1 Service Domain based BOM**

For each service domain in the BIAN Service Landscape, a pure Business Object Model (BOM) has been created which represents main objects managed by service domain. BIAN has created these pure business object models by using a new modelling tool named "BiZZdesign Enterprise Studio". We refer to this information model as "BIAN Business Object Model" that is independent of ISO20022 Business Model.

In Version 8.0, we have already created a BOM for all service domains involved in Wave 1 (67 SDs) and Wave 2 (22 SDs).

### 3.2.2 ControlRecord-BOM-ISO20022 Mappings

This is a mapping between Control Record elements (BIAN API Semantic), business objects and attributes (BIAN BOM) and business components and elements (ISO20022 BM). We call this mapping “ISO20022 Light Mapping” which means we only refer to the existing components and elements of ISO20022 and temporarily don’t extend the ISO20022 Business Model anymore in comparing with Version 7.0.

In addition to Full ISO20022 Mappings (ISO20022 extended models for 16 SDs) in the previous version, we have already defined ISO20022 Light Mapping for 30 SDs involved in Wave 1 and 2 SDs involved in Wave 2 in Version 8.0. We don’t have these light mappings in “BiZZdesign Enterprise Studio” modelling tool yet and only published them as tables in Excel files on the BIAN Wiki page.

## 4 New and Changed Service Domains

As a result of the more detailed definition work with the Semantic API initiative and the significant expansion of content changes have been made to improve the landscape

- Two new service domains, “Investment Account” and “Securities Position Keeping” have been added.
- The “Fraud Detection” service domain has been renamed to “Fraud Evaluation” and its Functional Pattern has been changed from Operate to Assess.
- “Fraud AML Resolution” has been renamed “Fraud Resolution”
- “Fraud Case” has been renamed to “Fraud Decisioning” and its Functional Pattern changed from Assess to Analyze
- “Dunning” has been merged with “Card Delinquent Account Handling” and the name changed to “Delinquent Account Handling” to reflect its expanded ‘cross product’ role
- The functional content of “Customer Precedents” has been replicated in “Party Life-cycle Management”. A final decision to retire “Customer Precedents” is pending

The Functional Pattern for several Service Domains has been changed to improve the mapping to the REST APIs:

- For “Document Services” it has been changed from Operate to Catalog
- For “Customer Position” it has been changed from Analyze to Monitor
- For “Direct Debit Mandate” it has been changed from Fulfill to Catalog
- For “Consumer Investments” it has been changed from Transact to Fulfill
- For “Product Matching” it has been changed from Assess to Analyze
- For “Card Terminal Administration” it has been changed from Administer to Allocate

There have also been changes to the mapping of default action terms to functional patterns and the precise meaning of the Action Terms in order to achieve greater

consistency with the API REST mappings. These changes are being tested out with the concurrent upgrade to the BIAN API Portal and once finalised will be fully documented in a BIAN Semantic API Practitioner Guide that will be published as soon as practical.

## 5 Behavior Qualifiers and Extended Service Operations

The BIAN Metamodel v6.0 introduced the notion of *behavior qualifiers*, which qualify (i.e. refine) the generic behaviors defined for a service domain. It also introduced the notion of *behavior qualifier types*, which classify behavior qualifiers. Furthermore, the new metamodel supported the definition of service operations based on behavior qualifiers; such extended service operations are refinements of the pattern-generated, generic service operations that BIAN introduced starting with v4.0, and are an important part of BIAN's efforts to publish semantic APIs. The behavior qualifiers and the associated extended service operations are purpose-modelled by people on a service domain by service domain basis, taking into account the individual needs of each service domain.

The Version 6.0 behavior qualifiers and associated extended service operations were experimental. Version 7.0 replaces the experimental qualifiers and extended service operations with a more robust set of qualifiers and associated extended operations.

Version 7.0 include behavior qualifiers and associated extended service operations for API Wave 1, which includes service domains covering interactive access, customer on-boarding and offer processing, basic payments, and consumer loans. Version 7.0 also included partly developed extended content for Wave 2, covering cards and retail banking, and for Wave 3, which addresses corporate banking.

Version 8.0 includes additional content for Waves 3 & 4 and reworking of the Wave 1-3 content to reflect changes to the Action Terms and Functional Pattern mappings that have been needed to improve the consistency with the REST mapping. These changes are the result of feedback received from the membership based on practical implementation experience. As noted these changes will be fully documented in the upcoming BIAN Semantic API Practitioners Guide.

## 6 Business Scenarios

In the process of migrating the Business Scenarios to BiZZdesign, verification and enhancement of the Release 7.0 Business Scenarios has taken place. Some 174 E2E scenarios were migrated, verified on naming conventions and the use of patterns and enhanced with conditional and repeated invocations of Service Connections. 64 new Business Scenarios were defined across all Working Groups, bringing the total number of E2E scenarios to 238. Intensive sessions with Working Groups were held to ensure the correctness of the scenarios.

The model also contains a great number of first order scenarios, which are to be seen as composing parts of End-2-End scenarios. As the number of E2E, WG-verified, scenarios increases, these first order scenarios will gradually be sunsetted. The next table shows the number of E2E Business Scenarios per Working Group.

Working Group	# E2E scenarios
Bank Relations and Business Development	38
Card Products	26
Channels	7
Corporate Banking Products	79
Lending	16
Payments	18
Product & Price	6
Retail Banking & Consumer Services	14
Semantic API	27
Wealth Management	7
Total	238

## 7 Business Capability Model

The purpose of the BIAN Banking Business Capability Model (B3CM) is to promote a meaningful dialogue with business stakeholders in terms of WHAT the organization needs to deliver for their value propositions and to keep in line with regulations. The Business Capability Model supports strategic planning exercises that business stakeholders have with internal IT stakeholders and vendors.

The scope of the Business Capability Models Working Group is to define a standard banking business capability model and align it with BIAN’s Service Landscape, and other relevant BIAN artifacts.

The following artifacts were created and made available

- High level Business Capability grouping (6 groups)
- 32 Level 1 Business Capabilities
- 172 Level 2 Business Capabilities
- 329 Level 3 Business Capabilities
- 26 Level 4 Business Capabilities
- BIAN Banking Business Capability modelling Guide
- BIAN Banking Business Capability FAQ presentation

## 8 Updated How-to Guides

The BIAN How-to Guides were substantially updated for Version 6.0. The updates covered significant expansions of the BIAN Metamodel that Version 6.0 introduced, as well as an expansion of the explanations of the pre-existing Metamodel concepts.

By contrast, the Version 7.0 How-to-Guides were incremental updates. As mentioned above, the BIAN Metamodel Version 7.0 contained only a few minor updates to the Version 6.0 Metamodel.

The Version 7.0 How To Guides have been used as the foundation for the recently published BIAN book and the architect training and certification materials. Some significant revisions and extensions to the BIAN approach have been developed to support the BIAN Semantic API initiative. These changes and extensions are still being finalised based on practical feedback from members using the semantic API content. They will be fully documented and published with the upcoming BIAN Semantic API Guide in the near future.

The BIAN Book has replaced the former How-to-Guides. In the near future also a new version of the BIAN Book (Edition 2020) will be published, reflecting the aforementioned changes implemented in Version 8.0.