

Banking Industry Architecture Network

BIAN Version 6.0 **Release Note**

Organization

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1 Overview of Release 6.0

The v6.0 release contains substantial updates to the BIAN Metamodel, content, and documentation.

1.1 API Wave 1

The Metamodel, content, and documentation all contains updates to support the publication of semantic APIs. BIAN plans to publish semantic API content in waves; v6.0 publishes content for API Wave 1.

BIAN plans to publish content for API Waves 2, 3, and 4 later in 2018.

1.2 Beyond Pattern-Based Generation of Content

Version 6.0 is a milestone in the way that content for the BIAN Service Landscape is produced.

Through v5.1, the specifications of service domains' structure and operations were entirely pattern-generated according to the functional pattern and asset type assigned to each service domain. Based on those assignments, generic service operations and information structures for each service domain were algorithmically generated. This approach enabled BIAN to provide useful specifications across the entire service landscape of approximately 300 service domains years sooner than would otherwise have been possible.

It was always understood that eventually, once the basic scaffolding was pattern-generated and validated across the service landscape, it would be necessary for *people* rather than algorithms to model detailed refinements of the generic content, taking into account the specific requirements of each service domain. Version 6.0 includes such purpose-built content, which refines the generic content. The purpose-built content includes new service operations and new information models.

2 Metamodel Updates

The BIAN Metamodel v6.0 introduces the notion of *behavior qualifiers*, which qualify (i.e. refine) the generic behaviors defined for a service domain. It also introduces the notion of *behavior qualifier types*, which classify behavior qualifiers. Furthermore, the Metamodel now supports 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 v6.0 metamodel also deprecates, but does not delete, the notion of invocation kind, which has been used to characterize service operations based on whether the caller of the operation is blocked from proceeding until it receives a response. The reason for the deprecation is that a consensus has emerged that the design of an

operation's blocking behavior is an implementation choice that should not surface in the semantic definition of a service operation.

3 New Content

This section provides some information on the new content contained in v6.0.

3.1 New Service Domains

There has been a significant refinement of the model for the cards products taking into account the different roles of issuer, acquirers and the network providers. This has resulted in a number of additional Service Domains:

- Card Collections
- Card Transaction Switch
- Delinquent Account Handling
- Card Clearing
- Card eCommerce Operation
- Card Financial Settlement
- Card Network Participant Facility
- Merchant Acquiring Facility
- Card Terminal Administration
- Card Terminal Operation
- Corporate Deposits

3.2 New Service Operations

Version 6.0 publishes over one hundred new service operations. The scope of API Wave 1 determined which new service operations were defined for v6.0.

Subsequent releases that cover API Waves 2, 3, and 4 will include additional new service operations.

The new operations are defined using behaviour qualifiers, and are published with metadata that makes explicit the connection between these extended service operations and the behaviour qualifiers used to define them.

The behaviour 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. However, the behaviour qualifier types that classify a service domain's behaviour qualifiers have been set automatically based on the functional pattern of the service domain.

The registration status of the new service operations is "Provisional". They will be promoted to fully registered status in a future release that defines the operations' input and output messages.

3.3 New Information Models

BIAN v5.0 introduced a skeletal information model that in essence consists of unelaborated, general data checklists that were auto-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 preserves these general checklists, but also begins the process of superseding them with purpose-built information models whose scope covers the control records for the priority service domains for API Wave 1. The priority service domains are those that participate in B2B and/or B2C interactions in the API Wave 1 business scenarios. There are 13 such priority service domains for API Wave 1.

Future releases will expand the information models' scope of coverage based on the requirements of API Waves 2, 3, and 4, and based on A2A interactions in the API Wave scenarios. The depth of coverage will also be expanded – iteratively – over time.

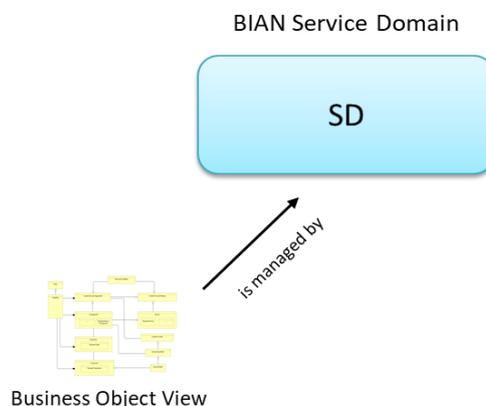
These newly introduced information models have two aspects: The BIAN Business Object Model and the ISO 20022 mapping.

3.3.1 BIAN Business Object Model

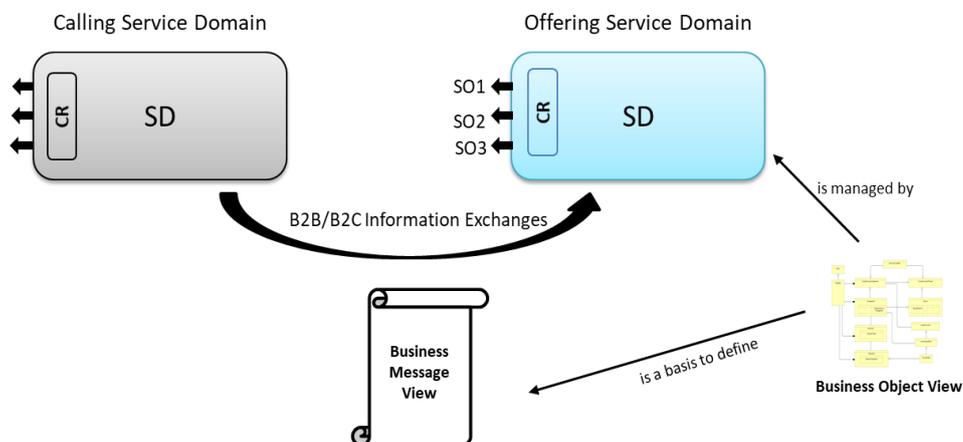
The BIAN Business Object Model (BOM) is a purely conceptual model of concepts that pertain to the control records of the BIAN service domains. This model was built entirely by BIAN, using the PowerDesigner modelling tool. In keeping with the principle stated above, the scope of the BOM for v6.0 covers the control records for the service domains that are primary for API Wave 1.

The BIAN BOM includes three main artefacts as “Business Objects”, “Business Object View” and “Business Message View”.

For each service domain that is primary for API Wave 1, a business object view is created which is a representation of business objects or concepts accompanied by their definitions, attributes and relationships. The business objects are fully identified based on a generic banking object pattern and methodology. BIAN carefully distinguishes between taxonomical and functional classifications. For each Banking Object identified, the related service domain is responsible to maintain and manage the defined business objects.



BIAN distinguishes Banking Objects from Banking Messages. A message is a communication construct to exchange information such as documents, requests and replies. For the primary service domains in API Wave 1, for each services operation involved in B2B/B2C information exchanges, we have created a business message view (based on business object view) regarding to the control record data of offering service domain.



The Business Message View contains the identifiers, generic and functional attributes of the control record and define these precisely with the datatype of the Business Object.

3.3.2 ISO 20022 Mapping

The ISO 20022 mapping relates the BIAN control records to elements of an extended ISO 20022 model. The extended ISO 20022 model was built by BIAN using the Magic Draw modelling tool, starting with the official ISO 20022 Business Model and adding elements where needed. Again, the mapping covers the control records for the service domains that are primary for API Wave 1, but it also covers control records for some service domains that are involved only in A2A interactions in the API Wave 1 business scenarios.

Where possible, BIAN control records are mapped to pre-existing elements of the ISO 20022 Business Model. Where necessary, BIAN has added new elements to support BIAN control records. In a smaller number of cases, the extended model changes something in the pre-existing ISO 20022 elements.

All elements in the extended ISO 20022 model that are BIAN additions are marked with Provisional registration status. BIAN has submitted the additions and changes to ISO via an established process that will result in an eventual update to the official ISO 20022 Business Model.

The representation in Magic Draw of each control record that is within the API Wave 1 primary scope of coverage contains a hyperlink to the corresponding representation of the control record in the PowerDesigner-based BOM.

3.4 New Business Scenarios

First-order interactions are simple business scenarios for which there is a specified primary service domain, and in which all of the service exchanges (i.e. interactions) in the scenario involve the primary service domain. End-to-end scenarios are business scenarios that do not have this limitation, and thus tend to be more complex.

The following is a summary of the new end-to-end business scenarios that have been added since v5.1:

Payments

- Handle Incoming Credit Transfer - valid - Execution by Corporate Current Account
- Handle Request for Internal Transfer - Execution by Corporate Current Account
- Handle request for Outgoing Credit Transfer - execution by Corporate Current Account

Corporate Banking Products

- Execute Credit Booking on Corporate Current Account
- Execute Debit Booking with Final Block on Corporate Current Account
- Execute Debit Booking without Final Block on Corporate Current Account

Cards

- Card Use Authorisation - Card Network Scenario
- Card Use Authorisation - Issuer Scenario
- Card Use Authorisation – Acquirer Scenario
- New Card Setup for Card Application

Semantic API

- Check customer channel access history and access entitlement
- End Mobile Access Session and Update Event, Servicing and Channel History
- Execute Customer Onboarding
- Flag Bots Acting as Customers or TPPs
- Get Customer Request and show Account Balance
- Handle Client request for user access token using bank Authorization Grant and its 'client secret' (done within active contact)
- Handle Customer /TPP request for access with stolen/cancelled token/device
- Handle Customer Request for a Payment Order during an Active Mobile Access Session
- Handle Customer request to log on to the bank (to authenticate) and to authorise client access to their account
- Handle Request for Account Statement
- Customer Offer for Consumer Loan – Checks and Options
- Customer Offer for Consumer Loan – Complete Origination
- Customer Offer for Consumer Loan – Configuration and Pricing
- Customer Offer for Consumer Loan – Record Collateral and Underwriting
- Customer Offer for Consumer Loan – Verify Documentation and Offer Process
- Handle request to get Customer Account Balance
- Handle Servicing Request for Access Attempt with out of Pattern Customer/TPP Behaviour

- Handle TPP request for registration with the Bank and exchange of 'client identifier' and 'client secret' for later reference
- Initiate Payment Order
- Process Customer Access Request and Authentication
- Process access request by TPP on behalf of a Customer
- Process Contact setup and start TPP Servicing Dialogue
- Record Lost/Stolen Token/device
- Consumer Loan – set-up (triggered by Customer Offer)
- Consumer Loan – withdrawals – customer initiates a payment order from the loan
- Consumer Loan – deposits – customer transfers funds from their current account to settle scheduled loan invoice

4 Updated Content

Within the scope of the service domains in focus for API Wave 1, many of the auto-generated English definitions of generic service operations have been replaced by more focused definitions written by people.

5 How-to Guide

The BIAN How-to Guide has been substantially updated for v6.0. The Introduction, and three main guides (Design Principles & Techniques, Creating Content and Applying the Standard) have all been revised to reflect updated concepts and approaches adopted since the prior release. In particular this includes an explanation of the 'behaviour qualifier type' and 'behaviour qualifiers' that add another level of detail to a Service Domain's specification. The revisions and additions also include an overview of the approach being followed with the BIAN API initiative to create expanded BIAN content and outline approaches for using the BIAN standard as a high level design for API implementation.

A new guide covering the BIAN API approach specifically has been added to the BIAN guides included in the release. Note that the BIAN Semantic API How to Guide is intended for business and technical architects. BIAN will publish a practitioner guide aimed at developers using the BIAN standard to develop APIs later this year.