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Foreign payments



ÍST TS 313:2021

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1. edition

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Foreword

This ÍST Technical Specification was developed in accordance with “ÍST Reglur um tækniforskriftir, tækniskýrslur og vinnustofusamþykktir” (e. IST rules on Technical Specifications, Technical Reports and Workshop Agreements). The TS (Technical specification) was prepared by the technical committee TN-FMP (The Technical Committee on Financial Services) that operates within FUT (Sector committee for ICT standardisation) following a public call for participation within TN-FMP. The final draft was sent to the TN-FMP on the 2022-01-XX and approved by correspondence on the 2022-02-XX. The text of ÍST TS-313 was submitted to IST for publication on 2022-03-YY.

The accompanying OpenAPI 3.0.1 definition “IOBWS3.0.yaml” located at <https://github.com/stadlar/IST-FUT-FMTH/tree/master/Deliverables>, should be viewed as an integral part of ÍST TS-313.

The document “ÍST TS 313_2021 Foreign payments.md” is the source of this rendition, and versions of that document will be used for future errata and clarifications in accordance with the procedures to be laid out in the workshop agreement ÍST WA-316, IOBWS 3.0 Technical Guidelines. rules are outlined in the README.md accompanying the Github Git repository and are accepted by the participants in TN-FMP alongside this specification. These guidelines establish the workgroup TN-FMP-VH-7 as in charge of ongoing monitoring of submitted issues or pull requests made to the repository, which fall outside the permit of other regular workgroups. TN-FMP-VH-7 will evaluate if changes ready to be accepted into the repository, and when or if, they warrant patches or minor releases to the specification. Versioning will be adheres to the Semantic Versioning scheme but each minor release will require a Workgroup agreement in accordance with the “ÍST reglur” referenced above.

The work on the ÍST TS-313 was primarily funded by Íslandsbanki, Arion Banki and Landsbankinn, with participation by Alskil hf, Eignaumsjón hf, Payday ehf, Wise lausnir ehf and Seðlabanki Íslands.

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Introduction

This Technical Specification (TS) presents version 3.0 of the Icelandic Online Banking Web Services (IOBWS), for foreign payments.

Previous versions of IOBWS, released in 2007 and 2013 respectively, defined common web service interfaces for the Icelandic commercial and savings banks. This enabled the integration of external accounting, payment, and information systems with the bank's services, to act on behalf of the customers and with full access to their data, e.g. for domestic accounts and payments.

All the banks have offered comparable services for foreign payments and associated transaction but until the work on the IOBWS version 3.0 started, they had not been under scope for the common specifications. This time around it was decided by the TN-FMP that it was time to open up initiation of, and information on foreign payments in the form of access to account statements.

The participants in the TN-FMP reviewed existing and emerging specifications in the global or mostly European financial industry to look for ways to merge the various domestic schemas with a more widely adopted framework.

The Open Banking regulation in the UK and the PSD2 regulation issued by the European Parliament has triggered initiatives to standardize access to payment functionality and account information, on behalf of customers by third parties. One such effort, the NextGenPSD2 Framework developed by the Berlin Group, has met a broad acceptance in the EEA. The data model references ISO 20022, and is close enough to the direction of the Icelandic market to make it relatively straightforward to adapt it as the new base for the IOBWS, instead of continuing to maintain an independent lineage of API specifications.

Another goal of the IOBWS version 3 charter set forth by TN-FMP and achieved by adopting the NextGenPSD2 Framework is the transition from SOAP to a REST-like API defined by a recent iteration of the Open API Specification. Along with support for modern authentication and authorization standards, this should address some of the perceived complexity in adapting IOBWS to various use cases, platforms and programming languages that have come to the fore after the release of the previous IOBWS versions.

1 Scope

ÍST TS-313 defines web application programming interfaces implemented by Icelandic commercial and savings banks to expose shared functionality and information for foreign payments, under the auspices of the Icelandic Online Banking Web Services (IOBWS).

Other ÍST Technical Specifications exist that address related but discrete units of the overall IOBWS framework, either as new additions or upgrades to the previous specifications. Some crosscutting guidelines and shared concerns are addressed in the workshop agreement ÍST WA-316. As the consumption and implementation of each individual part of IOBWS are optional, the documents aim to be independent of each other.

However, due to the origin of the underlying OpenAPI specification in the Berlin Group NextGenPSD2 Framework, ÍST TS-310 on Domestic Payments and Deposits, and ÍST TS-313 on Foreign Payments, overlap quite significantly. Both are based on the “IOBWS3.0.yaml” definition document, and share schema types and API resources. They will still be treated as separate entities but stakeholders are advised to reference the other document if more context is required.

The approach in ÍST TS-313 is to focus on the domestic adaptations to the relevant parts of the NextGenPSD2 framework, and the information needed to tie that to earlier IOBWS versions or other such implementations, and even the Core Banking systems involved.

The intended audience for the specification document ÍST TS-313 is the implementors of banking services as well as of those systems that will consume them as API clients. The reader is expected to have a basic understanding of the Icelandic financial products involved. Further documentation on business aspects of those products will be available from the banks in question as they can involve service agreements and the end customers’ contractual preferences and benefits.

Consequently, the ÍST TS-313 specification avoids the unnecessary repetition of information found in the technical contract IOBWS3.0.yaml. Instead, the rest of the document focuses on the essential information needed to understand the domestic context of services, schema types and service flows in relation to the NextGenPSD2 framework, and what constitutes the common core required to implement the ÍST TS-313.

2 Normative references, definitions, and symbols

2.1 Terminology

- **Berlin Group** is a pan-European payments interoperability standards and harmonisation initiative with the primary objective of defining open and common scheme- and processor-independent standards in the interbanking domain between Creditor Bank (Acquirer) and Debtor Bank (Issuer), complementing the work carried out by e.g. the European Payments Council. As such, the Berlin Group has been established as a pure technical standardisation body, focusing on detailed technical and organisational requirements to achieve this primary objective.
- **Clearing and Settlement Mechanisms (CMS)** refers to the processes or systems used in exchange between two payment service providers. In Iceland, the Central Bank acts as the interbank intermediary in this scope.
- **Core Banking Systems (CBS)** is the umbrella term for those systems handling payments and transaction accounts in relation to this specification.
- **Electronic IDentification, Authentication and trust Services (eIDAS)** refers to regulation 910/2014 of the European Parliament and of the Council, which replaced previous directive 1999/93/EC.
- **ISO 20022** is an ISO standard for electronic data interchange between financial institutions.
- **Kennitala** (often abbreviated as **KT**) is the unique national identification number issued by the Registers Iceland (ic. Þjóðskrá Íslands) and used by governmental bodies and enterprises to identify individuals, and through a comparable schema under the Iceland Revenue and Customs (ic. ríkisskattstjóri), legal entities in Iceland.
- **The OpenAPI Specification (OAS)** defines a programming language-agnostic interface description for HTTP APIs, which allows both humans and computers to discover and understand the capabilities of a service without requiring access to source code, additional documentation, or inspection of network traffic.
- **Payment Services Directive 2 (PSD2)** was instituted by the European Parliament as EU 2015/2366, meant to further open up payment services on the internal EEA market. PSD2 contains regulations of new services to be operated by so-called Third-Party Payment Service Providers on behalf of a Payment Service User, by leveraging Strong Customer Authentication.

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Due to the lineage connecting PSD2 with IOBWS v3.0, the main terms are described:

- **Account Information Service Provider (AISP)** are *TPPs* with permission to connect to a transaction account and use the information to provide a **Account Information Services (AIS)** as defined in article 67 of [PSD2].
- **Confirmation of the Availability of Funds Service** to be use by Payment Instrument Issuing Service Provider (PIISP) TPP a defined by article 65 of [PSD2].
- **Payment Initiation Service Provider (PISP)** can, given customers consent, initiate payments and transactions on the their behalf, from their bank account, thereby providing **Payment Initiation Service (PIS)** as defined by article 66 of [PSD2].
- **Payment Service User (PSU)**. The end-user of payment services, and customer of the bank in the IOBWS context.
- **Strong Customer Authentication (SCA)**, refers in the scope of PSD2 to an authentication mechanism based on the use of two or more elements that are independent, so a breach of one does not compromise the others. The recognized elements or factors can be based on:
 - * Knowledge, something only the user knows e.g. a password.
 - * Possession, something only the user possesses e.g. a particular cell phone and number.
 - * Inherence, something the user is or has, e.g. a fingerprint or iris pattern.
- **Third Party Provider** is referenced in the IOBWS, for the role of the initiating and information requesting

2.2 Data definitions

The Icelandic IBAN data elements should follow specification set forth in ISO 13616:2020 as shown in the table 2.1 below.

Table 2.1: Icelandic IBAN with example

	Country Code	Check Digits	National Bank Code	Branch ID	Account type	Account Number	Account Holders Kennitala
Description	IS	14	2 digits	2 digits	2 digits	6 digits	10 digits
Example	IS	14	01	59	26	007654	5510730339

3 Implementation

3.1 Service Overview

Part of the decision to adopt the NextGenPSD2 framework, agreed upon by TN-FMP-VH-1 on Technical Requirements and TN-FMP-VH-2 on Business Requirements, called for staying as true to the specification as possible.

However, not unlike other existing domestic adaptations of NextGenPSD2, additional functionality was needed to support payment operations and account information expected by the Icelandic market. The original workgroup did so by extending existing schema types in the NextGenPSD2 OpenAPI contract while removing elements and services not directly applicable to IOBWS. The intention was to streamline the specification but turned out to be challenging to work with for developers with previous exposure to NextGenPSD2 while remaining opaque for those migrating from earlier IOBWS versions.

Workgroup TN-FMP-VH-8 was therefore charged with revising the first 3.0 version of IOBWS. It addressed two primary concerns; Clarify how the foreign payments products fit into NextGenPSD2 as well as simplifying comparison against future releases by the Berlin Group. This should make it straightforward to weigh potential additions to, or replacements of, the current domestic adaptations included in the IOBWS.

The decision made by the TN-FMP-VH-8 was therefore to keep most of the original NextGenPSD2 OpenAPI definition intact, even those services and types that are not currently applicable to the Icelandic context or intended uses of the IOBWS. The foreign payments products (see section 3.2.1 and table 3.2 below) are defined separately with applicable JSON schema types, leaving the original e.g. SEPA message types intact. They share the generic data elements along with the 'native' payment types, reusing the services, and operations for payments that are at the core of the NextGenPSD2 specification.

The table 3.1 below list the implications for the OpenAPI YAML contract. It contains the Constants and Signing Basket services, as removing or commenting those out would have had a high impact on the contract structure. They will, however, not be implemented as part of this specification, though this does not preclude their use in other contexts.

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Table 3.1: Service support in ÍST TS-313.

Payment Initiation Service (PIS)	Supported by all implementors of TS-313 in accordance with the specification (see later notes on Periodic Payments).
Account Information Service (AIS)	Supported by all implementors of TS-313 in accordance with the specification.
Confirmation of Funds Service (PIIS)	Supported by all implementors of TS-313, in accordance with the specification.
Consent Service	Explicitly not part of the TS-313 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.
Signing Baskets Service (SBS)	Explicitly not part of the TS-313 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.

3.2 Payment Initiation Service

3.2.1 Overview

The foreign payments products supported by ÍST TS-313 are as shown in table 3.2 below. All those are defined as JSON objects, and other payment types are not supported by the specification.

Variations in procedures for foreign payments will apply within each bank e.g. concerning routing or acceptance flows. Accordingly, service consumers should expect all of the available payment processing statuses to apply per the specification.

Table 3.2: Foreign payment products.

SEPA - Credit Transfers	Payments using the Single European Payment Area Credit Transfer (SEPA) schema.
Cross-Border - Credit Transfers	Cross Border Payments, using the Society for Worldwide Interbank Financial Telecommunication (SWIFT) Network.

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For each of the payment products, the support for payment services is given in table 3.3. At this time, behaviour for periodic payments is not supported by the ÍST TS-313 for foreign payments.

Table 3.3: Availability of payment service.

payments	Supported by all implementors of TS-313 in accordance with the specification, for domestic adaptation of foreign payment products.
bulk-payments	Supported by all implementors of TS-313 in accordance with the specification, for domestic adaptation of foreign payment products.
periodic-payments	Explicitly not part of the TS-313 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.

3.2.2 Domestic Payment Product Data Elements

The following elements are used in the domestic payment products under scope for ÍST TS-313:

Table 3.4: Data elements for foreign payments.

Data Element	SEPA - Credit Transfers	Cross-Border - Credit Transfers
endToEndIdentification	N/A	N/A
debtorAccount	Mandatory	Mandatory
debtorId	N/A	N/A
chargesAccount	Optional	Optional
ultimateDebtor	N/A	N/A
ultimateDebtorId	N/A	N/A
instructedAmount	Mandatory	Mandatory
creditorAccount	Mandatory	Mandatory
creditorAgent	N/A	Optional
creditorAgentAddress	N/A	Optional
creditorName	Mandatory	Mandatory
creditorId	N/A	N/A
creditorAddress	Optional	Mandatory

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Data Element	SEPA - Credit Transfers	Cross-Border - Credit Transfers
ultimateCreditor	N/A	N/A
ultimateCreditorId	N/A	N/A
icelandicPurposeCode	N/A	N/A
chargeBearer	Optional	Optional
remittanceInformationUnstructured	Optional	Optional
remittanceInformationStructured	N/A	N/A
requestedExecutionDate	N/A	N/A
partialPayment	N/A	N/A
serviceLevel	N/A	Optional
centralBankPurposeCode	Mandatory	Mandatory

To elaborate on the use of particular attributes the following table 3.5 contains additional information on top of the schema definitions. Notes on individual data elements or usage patterns follow in the subsections.

Table 3.5: Detailed description of ÍST TS-313 payments properties.

Field	Description
serviceLevel	Applies to SWIFT Payments using ISO ExternalServiceLevel1Code but only SDVA and URGP are suggested for use by domestic banks, as described in table 3.6.

Below are the codes suggested for use in service level preferences for SWIFT (Cross-Border) credit-transfers. The use might be further constrained so consulting specific product documentation that applies to each banks implementation of ÍST TS-313 is recommended.

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Table 3.6: Suggested external service level codes.

Code	Name	Definition
SDVA	SameDayValue	Payment must be executed with same day value to the creditor.
URGP	Urgent Payment	Payment must be executed as an urgent transaction cleared through a real-time gross settlement system, which is typically identified as a wire or high value transaction.

3.3 Bulk Payments

Bulk payments are supported for all ÍST TS-313 payment types. For a bulk payment all collected payments shall be based on the same payment product and initiated from the same debtor account, consistent with the approach of the NextGenPSD2 framework.

Table 3.7: Description of domestic bulk payment main body.

Data Element	Type	Condition	Description
batchBookingPreferred	Boolean	N/A	
debtorAccount (incl. type)	Account Reference	Mandatory	
paymentInformationId	Max35Text	Optional	Unique identification assigned by the sending party to unambiguously identify this bulk payment. Replaces NameOfBatch in IOBWS v2.0 and PaymentsID , that was generated by the receiving bank. Note: This attribute might be considered mandatory in future versions of the specification.
requestedExecutionDate	ISODate	N/A	

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Data Element	Type	Condition	Description
requestedExecutionTime	ISODatetime	N/A	
payments	Bulk Entry	Mandatory	The Bulk Entry is a JSON Type which mirrors the supported domestic payment products for single payments, excluding the data elements: debtorAccount, and requestedExecutionDate.

4 Accounts

Table 4.1: Description of transaction details.

Field	Rule	Description
transactionId	Mandatory	Unique identifier for this record
transactionTimestamp	Mandatory	Execution datetime of the record
entryReference	Mandatory	Payment Correlation ID
endToEndId	Optional	Short description
mandateId	N/A	Identification of Mandates
checkId	N/A	Not used
currencyExchange	Optional	List. If transaction caused by any foreign exchange
bookingDate	Optional	The Date when an entry is booked
valueDate	Mandatory	The Date at which assets become available
transactionAmount	Mandatory	Amount and currency of this record
creditorId	Optional	Creditor id
creditorName	Optional	Creditor name
creditorAccount	Optional	Creditor account
creditorAgent	Optional	BICFI
ultimateCreditor	Optional	Ultimate creditor
ultimateCreditorId	Optional	Ultimate creditor id
debtorId	Optional	Debtor Id
debtorName	Optional	Debtor name
debtorAccount	Optional	Debtor account

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Field	Rule	Description
debtorAgent	Optional	BICFI
ultimateDebtor	Optional	Ultimate debtor
ultimateDebtorId	Optional	Ultimate debtor Id
remittanceInformationUnstructured	Optional	My description
remittanceInformationStructured	Optional	Reference field 16 characters
additionalInformation	Optional	Additional transaction related information
purposeCode	N/A	Not used
icelandicPurposeCode	Optional	Text code used as simple transaction categorization
bankTransactionCode	N/A	Not used
proprietaryBankTransactionCode	N/A	Not used
balanceAfterTransaction	Optional	Balance after the transaction has been performed
_links	Optional	Link to transaction details