Íslenskir staðlar

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Technical Specification - Foreign payments

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ÍST TS 313:2021

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ÍST TS 313:2021

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1. edition

Table of contents

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-FMÞ (The Technical Committee on Financial Services) that operates within FUT (Sector committee for ICT standardisation) following a public call for participation within TN-FMÞ. The final draft was sent to the TN-FMÞ 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 guidelines to be laid out in WA-316. Those rule are outlined in the README.md accompanying the Github Git repository and are accepted by the participants in TN-FMÞ alongside this specification. These guidelines establish the workgroup TN-FMÞ-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-FMÞ-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 was primarly funded by Íslandsbanki, Arion Banki and Landsbankinn, with participation by Alskil hf, Eignaumsjón hf, Payday ehf, Wise lausnir ehf and Seðlabanki Íslands.

addition, if you remix, transform, or build upon the specification, you may not distribute the modified specification.

The Technical Committee's participants have made every effort to ensure the reliability and accuracy of the technical and non-technical content of ÍST TS-313, but this does not guarantee, either explicitly or implicitly, its correctness. Users of ÍST TS-313 should be aware that neither the TN-FMÞ, nor ÍST can be held liable for damages or losses of any kind whatsoever which may arise from its application. Users of ÍST TS-313 do so on their own responsibility and at their own risk.

Introduction

This Technical Specification (TS) present version 3.0 of the Icelandic Online Banking 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-FMÞ 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-FMÞ 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 adpoted framework.

As it has turned out, the Open Banking regulation in UK and the PSD2 regulation issued by the European Parliment has given rise to 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 where the Icelandic market is evolving as to make it a relatively straightforward to adapt the IOBWS to use it as a base, instead of continuing to maintain an independant linage of API specifications.

Another goal of the IOBWS v3 charter set forth by TN-FMÞ, that is achieved by adopting the NextGenPSD2 Framework, is the transition from SOAP to a REST-like API, defined by a recent version of the Open API Specification, with support for newer, open authentication and authorization standards. This hopefully solve some of the complexity involved with previous incarnations of the IOBWS.

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 ÍST WA-316 workshop agreement. Aside from that, as the consumption and implementation of each atomic specification is 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 both 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 but also that when needed, further documentation on those will be available from the banks in question as they can involve different service agreements and the end customers’ contractual preferences and benefits.

Consequently, this specification avoids unnecessary repetition of information found in the accompanying technical contract, as much as possible, and the reader should not expect the specification to replace user-centric documentation, such as by describing overall flows, schema types, or even examples, other than in line with goals of this document.

2 Normative references, definitions, and symbols

2.1 Terminalogy

- **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 mediary 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 (is. Þjóðskrá Íslands) and used by governmental bodies and enterprises to identify individuals, and through a comparable schema under the Iceland Revenue and Customs (is. ríkisskattsjótir), 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.

Due to the linage 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 adapt the NextGenPSD2 framework, agreed upon by TN-FMÞ-VH-1 on Technical Requirements and TN-FMÞ-VH-2 on Business Requirments, called for staying as true to the specification as possible.

Still, some adaptations and additional parameters were needed to support payment functionality and account information expected by the Icelandic market. The original approach was to add them to the existing schema types, while some NextGenPSD2 services not applicable to IOBWS usage were removed, in the original 3.0 version. The end-result, though, made both comparison with the original somewhat cumbersome for consumers with previous exposure to NextGenPSD2, while remaining opague for those looking to migrate from earlier IOBWS versions.

When workgroup TN-FMÞ-VH-8 was charged with iterating on the first 3.0 version of IOBWS, it therefore had two primary concern; Make understanding how the foreign payments products fit into NextGenPSD2 straightforward, and facilitate easier comparison against future releases by the Berlin Group in order to weigh potential additions to or replacements of, the current domestic adaptations.

After weighing a few approaches, the decision by TN-FMÞ-VH-8 was 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, same as the ‘native’ payment types still share the generic data elements, services, and operations for payments at the core of the NextGenPSD2 specification.

The table 3.1 below list the implications for the OpenAPI YAML contract. It contains e.g. Constent and Signing Basket services, whose removal or commenting out would have 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.

Table 3.1: Service support in ÍST TS-313.

Payment Initiation Service (PIS)	Supported by all implementators of TS-313 in accordance with the specification (see later notes on Periodic Payments).
Account Information Service (AIS)	Supported by all implementators of TS-313 in accordance with the specification.
Confirmation of Funds Service (PIIS)	Supported by all implementators 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 3.1 below. All those are defined as JSON objects, and other payment types are not supported by the specification.

As instant credit transfers are the only available type in Iceland for account to account transfers, the name is simply Credit Transfers. That does not preclude additional business rules applying for e.g. high-value payments within each bank, or there being different stages in payment flows within e.g. 'end-of-business-day' periods. This could result in service consumers being exposed to transaction status codes reflecting intermediary steps in payment execution, some of which have not previously been visible or mapped in IOBWS return codes. Later changes in CB systems and CMS might also affect the scope of statuses returned so consumers, so all of the available by the specification should be expected.

Table 3.2: Foreign payment products.

SEPA - Credit Transfers	Payments using the Single European Payment Area Credit Transfer (SEPA) schema.

Table 3.2: Foreign payment products.

Cross-Border - Credit Transfers	Cross Border Payments, using the Society for Worldwide Interbank Financial Telecommunication (SWIFT) Network.

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 support by the ÍST {{spec_id} for foreign payments.

Table 3.3: Availability of payment service.

payments	Supported by all implementators of TS-313 in accordance with the specification, for domestic adaptation of foreign payment products.
bulk-payments	Supported by all implementators 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 Domestic 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

Data Element	SEPA - Credit Transfers	Cross-Border - Credit Transfers
creditorAgent	n.a.	Optional
creditorAgentAddress	n.a.	Optional
creditorName	Mandatory	Mandatory
creditorId	n.a	n.a
creditorAddress	Optional	Mandatory
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 defenitions. 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 A b a	pplies to SWIFT Payments using ISO ExternalServiceLevel1Code ut only SDVA and URGP are suggested for use by domestic banks, s 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 reccomended.

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	

Data Element	Type	Condition	Description
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	
requestedExecutionTime	ISODateTime	n.a	
payments	Bulk Entry	Mandatory	The Bulk Entry is a JSON Type which mirrors the supported domest payment products for single payments, excluding the data elements: debtorAccount, and requestedExecutionDate.

4 Accounts