Íslenskir staðlar

ÍST TS 313:2022

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Tækniforskrift - Erlendar greiðslur

Technical Specification - Foreign payments

Íslenskir staðlar

ÍST TS 313:2022

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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-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 2022-03-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_2022 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-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 adhere to the Semantic Versioning(n.d.) scheme and 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.

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.

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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-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.

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 linage of API specifications.

Another goal of the IOBWS version 3 charter set forth by TN-FMÞ 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.

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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 type and API service definitions. 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 ÍST TS-313.

2 Normative references, definitions, and symbols

2.1 References

The following documents are referred to in ÍST TS-313 as part of their content constitutes requirements of this document. Only the edition cited applies, if newer editions exist.

Alþingi. (2019). *Lög um rafræna auðkenningu og traustþjónustu fyrir rafræn viðskipti nr. 55 21. júní 2019*.

Alþingi. (2021). *Lög um greiðsluþjónustu nr. 114 25. júní 2021*.

International Organization for Standardization. (2020a). *ISO 13616-1:2020. Financial services - International bank account number (IBAN). Part 1: Structure of the IBAN.*

International Organization for Standardization. (2020b). *ISO 20022 Financial services - universal financial industry message scheme.*

P.-W. (n.d.). *Semantic Versioning 2.0.* (No. 2021/114). https://semver.org/spec/v2.0.0.html

The Berlin Group, A European Standards Initiative. (2020). *NextGenPSD2 Access to Account Framework*. https://www.berlin-group.org/nextgenpsd2-downloads

The European Parliament. (2014). *Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC*.

The European Parliament. (2015). *Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC*.

2.2 Terms and definitions

- **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 (The European Parliament, 2014), which replaced previous directive 1999/93/EC. It was introduced to Iceland law through act no. 2019/55 (Alþingi, 2019).
- **ISO 20022** is an ISO standard (International Organization for Standardization, 2020b) 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.
- **Kröfupotturinn** (often identified as **IK**) is the domestic billing and claim system supported by all current financial institutions in Iceland. Through the system, claims can be issued against any *kennitala*, and the functionality is similar to the intended *request-to-pay* system in Europe, though services in IK extend beyond that scope.
- **NextGenPSD2 Access to Accounts Framework** (**NextGenPSD2 Framework** or just **NextGenPSD2**) is the framework established by *the Berlin Group* to define a common PSD2 compliance interface (The Berlin Group, 2020). Since then parts of the framework have extended beyond compliance, into other Open Banking aspects.
- **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.

2.3 Payment service directive terms

As the ÍST TS-313 owes much of its core to the NextGenPSD2 framework, the terms found in the OpenAPI specification and this document may reflect that background. Some of the main definitions are included here for context.

- **Payment Services Directive 2** (**PSD2**) was instituted by the European Parliament as EU 2015/2366 (The European Parliament, 2015), and meant to further open up payment services on the internal EEA market. It was introduced to Iceland law through act no. 2021/114 (Alþingi, 2021). 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 EU 2015/2366 (The European Parliament, 2015).
- **Confirmation of the Availability of Funds Service** to be use by Payment Instrument Issuing Service Provider (PIISP) TPP a defined by article 65 of EU 2015/2366 (The European Parliament, 2015).
- **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 EU 2015/2366 (The European Parliament, 2015).
- **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:
  1) Knowledge, something only the user knows e.g. a password.
  2) Possession, something only the user possesses e.g. a particular cell phone and number.
  3) Inherence, something the user is or has, e.g. a fingerprint or iris pattern.
- **Third Party Provider** (**TPP**) is referenced in the OpenAPI specification reflecting the PSD2 background, when the client system is initiating operations or requesting information on behalf of the end-consumer.

2.4 Data elements

The International Bank Account Number (**IBAN**) format for Icelandic accounts should follow the specification set forth in ISO 13616-1:2020 (International Organization for Standardization, 2020a) as shown in the table 2.1 below. Description of the implementation of the checksum calculation is outside the scope of this document, but should be discernable from the ISO standard and examples available online.

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	2 digits	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-FMÞ-VH-1 on Business Requirments and TN-FMÞ-VH-2 on Technical 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 developers with previous exposure to NextGenPSD2 found it turned out challenging to understand the changes, while the overall implementation details still remained opaque for those looking to migrate from earlier IOBWS versions.

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

The decision made by the TN-FMÞ-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 Constents 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.

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).

Table 3.1: Service support in ÍST TS-313.

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.

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
ultimateCreditor	N/A	N/A

Data Element	SEPA - Credit Transfers	Cross-Border - Credit Transfers
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
centralBankPurposeCode	An element mandated by the Central Bank of Iceland, using a domestic coding schema that does not match any of ISO 20022 references such as the ExternalPurpose1Code used used by the purposeCode element available in the NextGenPSD2 framework, but not used by ÍST TS-313.
serviceLevel	Applies to SWIFT Payments and is constrained by ISO 20022 ExternalServiceLevel1Code. However only URGP is suggested for use by domestic banks, which means payment will 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. The use might be further constrained so consult specific product documentation that applies to each banks implementation of ÍST TS-313.

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 3.6: 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	
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 Service

The definition of the transaction details returned as a list, includes elements that are applicable to the relatively broad range of use cases the NextGenPSD2 covers. In table 4.1 the elements that are applicable to the domestic context and might need further explanation are given further description.

Table 4.1: Description of transaction details.

Field	Rule	Description
transactionId	Mandatory	Unique identifier for this record.
entryReference	Mandatory	Payment Correlation ID.
endToEndId	Optional	Short description.
currencyExchange	Optional	Returned when the transaction relates to any currency exchange.
bookingDate	Optional	The date when the entry was booked.
valueDate	Mandatory	The date at which assets became available.
transactionAmount	Mandatory	Amount and currency of this record.
creditorId	Optional	Creditor ID, or kennitala.
creditorName	Optional	Creditor name.
creditorAccount	Optional	Creditor account.
creditorAgent	Optional	The BICFI, Business Identifier Code of the financial institution, or other organization identification.
ultimateCreditor	Optional	Ultimate creditor.
debtorName	Optional	Debtor name.
debtorAccount	Optional	Debtor account.
debtorAgent	Optional	The BICFI, Business Identifier Code of the financial institution.
ultimateDebtor	Optional	Ultimate debtor.
remittanceInformationUnstructured	Optional	Payment description visible for both parties.

Field	Rule	Description
remittanceInformationStructured	Optional	Array of remittance, though only used currently for the 16 character debtor reference.
additionalInformation	Optional	Additional transaction related information.
purposeCode	N/A	Not returned as these codes have currently not been adapted to the uses that the Icelandic purpose code covers. Future Core Banking or Clearing changes might affect this.
bankTransactionCode	N/A	Not used currently for similar reasons as purposeCode.
proprietaryBankTransactionCode	N/A	Not used currently, similar to the previous purposeCode and bankTransactionCode.
balanceAfterTransaction	Optional	Balance after the transaction has been performed
_links	Optional	Link to transaction details
transactionTimestamp	Mandatory	Execution datetime of the record.
ultimateCreditorId	Optional	Ultimate creditor kennitala as applicable.
debtorId	Optional	Debtor kennitala.
ultimateDebtorId	Optional	Ultimate debtor kennitala.
icelandicPurpose	Optional	Returns the text codes used as simple transaction categorization, (ic. *textalykill*), with description.

5 Authentication and Authorization