Íslenskir staðlar

ÍST TS 310:2020

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Tækniforskrift - Innlendar greiðslur og innlán

Technical Specification - Domestic payments and deposits

Íslenskir staðlar

ÍST TS 310:2020

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1. edition

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TODO - [] Finalize the final of participants [@gudval]
- [] Update final dates in foreword
- [] Should end2enddescription be described?
- [] Merki reiknings - []

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-310 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-310. The document “ÍST TS 310_2020 Domestic payments and deposits.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 laid out in WA-316. Those rule are outlined in the README.md accompanying the Github Git repository and have been accepted by the participants in TN-FMÞ alongside this specification. These guidelines establishe workgroup TN-FMÞ-VH-7 as in charge of monitoring submitted issues and pull requests made to the repository, which fall the permit of other regular workgroups. VH-7 will determine if the changes are to be accepted and if they warrant patches or minor releases to the specification, reflected in its Semver 2 versioning. Each release will be based on 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. It is the result the workgroup TN-FMÞ-VH-8. In parts the work is the earlier workshop agreement WA-310 authored by TN-FMÞ-VH-1 on Technical requirements and TN-FMÞ-VH-2 on Business requirements, with participation of an external consultant. WA-310 was approved within TN-FMÞ on the 2019-12-12. ÍST TS-310 should, however, not be viewed as a direct succesor to that agreement, which focused on laying groundwork for PSD2 compliance. Instead TS-310 is the next version of the Icelandic Online Banking Services, replacing TS 161:2013 *Greiðslur* and TS 164:2013 *Yfirlit bankareikninga*.

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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-310, but this does not guarantee, either explicitly or implicitly, its correctness. Users of ÍST TS-310 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-310 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 domestic payments and deposits.

Previous versions of IOBWS, released in 2007 and 2013 respectively, used the most recent OASIS SOAP standards at the time, to define common web service interfaces for the Icelandic the commercial and savings banks. This enabled software vendors, enterprises and service providers to integrate their accounting, payment, and information systems with the bank's services, to act on behalf of the customers and with full access to their data.

Iceland, with its homogeneous financial infrastructure based on the centralized Banks' Data Centre (Reiknistofa bankanna, or RB), has enjoyed real-time gross settlements and instant credit transfers nationwide since 1987. Other universally accepted services count the common collection solution (Kröfupotturinn) for issuing and paying claims, topping up creditcards, or A/B Giro. All this functionality has been available through IOBWS v1 and v2, comparable to the functionality enjoyed by users of the online banking Web UIs.

When initiating work on the previous versions, the participants in the TN-FMÞ reviewed existing and emerging specifications in the global or mostly European financial industry. None were deemed a good fit at the time for local adaptation, as they reflected inherent the legacy in inter-bank communications outside of Iceland, even in the case of the other Nordic countries. Therefore v1 and v2 of IOBWS were somewhat specific to the current functionality available in the underlying RB systems.

Meanwhile, the broader market especially in Europe has been catching up, and the Icelandic banks' have migrated to new core banking systems that make adopting specifications based on or compatable with technology standard such as ISO 20022, both feasible and desirable. The Open Banking regulation in UK and the PSD2 regulation issued by the European Parliment gave 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 IOBWS to use it as a base, instead of continuing to maintain an independant linage of API specifications.

Another goal with v3 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, that hopefully solve some of the complexity involved with previous incarnations of the IOBWS.

1 Scope

ÍST TS-310 defines web application programming interfaces to be implemented by Icelandic commercial and savings banks, when exposing common functionality and information for domestic payments and deposits.

Related ÍST TS documents address other parts of the overall IOBWS framework, either as new additions or upgrades to the previous specifications. Some crosscutting guidelines and common concerns are addressed in the ÍST WA-316 workshop agreement. Aside from that, as both the implementation and consumption of each individual specifications is optional, the documents try 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, ovelap quite significantly. Both are based on the “IOBWS3.0.yaml” definition document, and share schema types and API resources. They will still be treated separately.

The intended audience for this specification document ÍST TS-310 are the implementors of banking services as well as of those systems that will consume them as API clients. The reader is expected to have basic understanding of the Icelandic financial products involved and that when needed, further documentation on those aspects will be supplied by banks exposing each procuct’s services.

The previous IOBWS technical specifications did in large parts consist of transforming the XML Schema and SOAP definitions into human readable format. The expectations is that for technical contracts using OpenAPI specifications, a plethora of utilities, and API tools exist to convert them into documentation or even navigatable UIs.

Consequently, this specification will avoid unecessarily repeating 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.

The approach in both TS-310 and TS-313 is instead 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, and even the Core Banking systems involved.

2 Normative references, definitions and symbols

2.1 Terminalog and Definitions

- **Kennitala**: The Icelandic ID number (often abbreviated as kt.) is a unique national identificatio number used by the Icelandic government to identify individuals, an with a comparable schema, legal entities in Iceland.
- **Icelandic IBAN** definition https://en.wikipedia.org/wiki/International_Bank_Account_Number ISO 13616:1997.
- **ISO 20022** is an ISO standard for electronic data interchange between financial institutions.
- **Clearing and Settlement Mechanisms** (CMS) are the
- **Core Banking Systems** (CBS) are the
- **eIDAS** 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
- **IOBWS** The acronym for the Icelandic Open Banking Web Services, often used to refer to the project as well as its product.
- **FUT** is the IT sector council at Icelandic standards.
- **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.
- **PSD2** an acronym for the revised Payment Service Directive (EU 2015/2366) instituted by the European Parliament, meant to further open up payment services on the internal EEA market. Among other changes [PSD2] contains regulations of new services to be operated by so-called

Third-Party Payment Service Providers (TPP) on behalf of a Payment Service User (PSU), by leveraging Strong Customer Authentication (SCA):

- **Payment Initiation Service** (PIS) to be operated by a Payment Initiation Service Provider (PISP) TPP as defined by article 66 of [PSD2].
- **Account Information Service** (AIS) to be operated by a Account Information Service Provider (AISP) TPP as defined b 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].
- **PSU**: Payment Service User. The end-user of payment service.
- **SCA**: Strong Customer Authentication. Defined by the EBA in its RTS on SCA as "an authentication based on the use of two or more elements categorised as knowledge (something only the user knows [for example, a password]), possession (something only the user possesses [for example, a particular cell phone and number]) and inherence (something the user is [or has, for example, a fingerprint or iris pattern]) that are independent, [so] the breach of one does not compromise the others, and is designed in such a way as to protect the confidentiality of the authentication data."

3 Implementation

3.1 Service Overview

The original mandate agreed by TN-FMÞ-VH-1, TN-FMÞ-VH-2 and iterated in the workgroup TN-FMÞ-VH-8, calls for ÍST TS-310 to stay as true to the NextGenPSD2 specification as possible. Domestic adaptations should only be used when the absolutely necessary, and it should remain straightforward to compare against future version released by the Berlin Group.

Another previously mentioned general goal of IOBWS v3, is to move closer to standards such ISO 20022 that, if not immediately comparable to the NextGenPSD2 json types, can be found in its use of the ISO 20022 dictionary and data elements. are in alignment with the data models used by current banking, core banking (CB), and clearing and settlement mechanisms (CSM) in Iceland, or the near future. ISO 20022 types are referenced

Overall, only a few additional parameters are needed to support the functionality and products, expected in IOBWS by the Icelandic market. Some of these needs might be addressed in future versions of NextGenPSD2 After weighing a few approaches, the decision is to keep most of the NextGenPSD2 OpenAPI definition intact, even those services and types that are not currently applicable to the Icelandic context or intended use of the IOBWS. The domestic payment products (see subsequent section) are defined separately, with applicable json schema types, instead of polluting the original SEPA (or potentially Pain) message types with new, the implementation is be more straightforward for all stakeholders, while still reusing the generic services resources and operations for payments in the NextGenPSD2 specification. The table below list the implications for the YAML contract. It includes e.g. Constent and Signing Basket services, whose removal or commenting out would have a high impact on the contract structure. They will not be implemented as part of this specification. This will make comparison between version easy and faciliate tactical decisions when and if the part of TS-310 specific to Iceland, should be updated.
tbl. 3.1

As the overriding goal of IOBWS v3 is to move closer to standards such ISO 20022 that are in alignment with the overall direction domestic core- and interbanking systems have been taking. Despite this, a few additional parameters were needed to support existing data flows, expected functionality, or to comply with domesic financial regulation.

Table 3.1: Service support in ÍST TS-310.

Payment Initiation Service (PIS)	Supported by all implementators of TS-310 in accordance with the specification (see later notes on Periodic Payments).
Account Information Service (AIS)	Supported by all implementators of TS-310 in accordance with the specification.
Confirmation of Funds Service (PIIS)	Supported by all implementators of TS-310, in accordance with the specification.
Consent Service	Explicitly not part of the TS-310 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.
Signing Baskets Service (SBS)	Explicitly not part of the TS-310 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.

3.2 Payment Initiation Service

3.2.1 Overview

As the overriding goal of IOBWS v3 is to move closer to standards such ISO 20022 that are in alignment with the overall direction domestic core- and interbanking systems have been taking. Despite this, a few additional parameters were needed to support existing data flows, expected functionality, or to comply with domesic financial regulation.

Therefore, the payment products supported by ÍST TS-310 are as shown in the table below:

Table 3.2: Domestic payment products.

Credit Transfers	Instant credit transfer of an amount between two accounts within the same bank or between two domestic banks.
Claim Payments	Make a withdrawal from account to pay a claim (e.g. a bill). The claim can be created in any domestic bank.

Table 3.2: Domestic payment products.

Credit Card Deposits	Make a withdrawal from account to pay onto the account behind a payment card, within the same bank or between two domestic banks.

For each of these, the support for payment services is as follows

Table 3.3: Availability of payment service.

payments	Supported by all implementators of TS-310 in accordance with the specification, for all domestic payment products.
bulk-payments	Supported by all implementators of TS-310 in accordance with the specification, for all payment products.
periodic-payments	Explicitly not part of the TS-310 specification, but included for comparison and compatability with the NextGenPSD2 OpenAPI contract.

3.2.2 Supporting adaptations to the NextGenPSD2 OpenAPI Specification

The document will further focus on highlighting the specific domestic adaptations and how they relate to

- **Only JSON is supported**: No XML is catered for in the payment products supported by the TS-310 specifications.
- **Credit Limit Query supported**: It is possible to query account information to get information on the allowed credit limit (withCreditLimitQuery).
-

3.2.3 Domestic payment products

The following elements are used in the domestic payment products:

Data Element	Credit Transfers	Claim Payments	Credit Card Deposits
endToEndIdentification	Optional	Optional	Optional

Data Element	Credit Transfers	Claim Payments	Credit Card Deposits
debtorAccount	Mandatory	Mandatory	Mandatory
debtorId	Optional	Optional	Optional
chargesAccount	n.a	n.a	n.a
ultimateDebtor	Optional	Optional	Optional
ultimateDebtorId	Optional	Optional	Optional
instructedAmount	Mandatory	Mandatory	Mandatory
creditorAccount	Mandatory	Mandatory	Mandatory
creditorAgent	n.a	n.a	n.a
creditorAgentAddress	n.a	n.a	na.
creditorName	n.a	n.a	n.a
creditorId	Optional	Optional	Optional
creditorAddress	n.a	n.a	n.a
ultimateCreditor	Optional	Optional	Optional
ultimateCreditorId	Optional	Optional	Optional
icelandicPurpose	Optional	Optional	Optional
chargeBearer	n.a	n.a	n.a
remittanceInformationUnstructured	Optional	Optional	Optional
remittanceInformationStructured	Optional	Optional	Optional
requestedExecutionDate	Optional	Optional	Optional
partialPayment	n.a.	Mandatory	n.a.
serviceLevel	n.a	n.a	n.a
centralBankPurpose n	.a n	.a n	.a

To highlight the use of each attribute the table below contains information on their use not obvious from the schema defenitions:

Field	Description
endToEndIdentification	Can be to transit a message, ID or short description that is communicated to the creditor, across different banks.
debtorAccount	Debtor account is the account used to transfer money from.
debtorId	Should contain the kt. of the debtor.
ultimateDebtor	Ultimate Debtor identifies the party that owes the cash to the Creditor as a result of receipt of goods or services. To name the original recipient of the invoice, Ultimate Debtor, in cases where it is different from the Payer.
ultimateDebtorId	Ultimate Debtor identifies the party that owes the cash to the Creditor as a result of receipt of goods or services. Ultimate debtor kt. is included when different from the debtor Id.
instructedAmount	Amount and currency to be transferred.
creditorAccount	Creditor account is the account used to transfer money to Beneficiary's account. In the case of a claim payment, this would be contain the claim key as represente as a BBAN number.
creditorId	Can be used to define id of the creditor. Creditor is the party whose account is credited with the payment.
creditorName	The creditor name is not necessary due to the fact that kennitala is part of the IBAN number.
creditorAddress	The creditor address is not needed in domestic payments where kennitala is part of the IBAN number and can be used as lookup key through the national registry.

Field	Description
ultimateCreditor	The creditor (for example a finance company or an intermediary in a business transaction), may be different from the ultimate creditor. The payer can enter who the final/real beneficiary of the payment is.In the case of credit card deposit using the masked pan ultimate Creditor contains the owner of the card.
ultimateCreditorId	In the case of credit card deposit using the masked pan ultimate Creditor Id contains kennitala of the owner of the card.
icelandicPurpose	The purpose or as previously, category code (is. *textalykill*) used to classify the transaction. Determined by codes available in each originating bank.
remittanceInformationStructured	The debtors's information about the payment. The "referenceissuer" field contains the reference (is. *tilvísun*), that previously was used for the kt. of the creditor, that now has a separate parameter. The "reference" field is used for the bill number (is. *seðilnúmer*, 7 characters).
remittanceInformationUnStructured	Is used for payment description visible for both parties (is. *skýring greiðslu*). Only 16 characters can be expected to be used, even if the field accepts 140 characters.
executionDate	Execution date if not today, if used then set as a future date (is. *framvirk greiðsla*).
executionTime	Not supported by this specification. Would allow payment instruction to be performed at specific date, and time. Possible future enhancement.
partialPayment	Applies when a claim is paid by paying an amount from debtor account towards an existing claim. If claim allows partial payment and API consumer want to pay for example ISK 500 of ISK 1000 claim, then this flag is used.

3.3 Bulk Payments

Data Element	Type	Condition	Description
batchBookingPreferred	Boolean	optional	If this element equals true, the PSU prefers only one booking entry. If this element equals false, the PSU prefers individual booking of all contained individual transactions. The ASPSP will follow this preference according to contracts agreed on with the PSU.
debtorAccount (incl. type)	Account Reference	mandatory	
paymentInformationId	Max35Text	Optional	Unique identification as assigned by the sending party to unambiguously identify this bulk payment. - This attribute may be used by ASPSPs or communities as an optional field. - Remark for Future: This attribute might be made mandatory in the next version of the specification.
requestedExecutionDate	ISODate	optional	If contained, the payments contained in this bulk will be executed at the addressed date. This field may not be used together with the field requestedExecutionTime.
requestedExecutionTime	ISODateTime	optional	If contained, the payments contained in this bulk will be executed at the addressed Date/Time. This field may not be used together with the field requestedExecutionDate.

Data Element	Type	Condition	Description
payments	Bulk Entry	mandatory	The Bulk Entry Type is a type which follows the JSON formats for the supported products for single payments, excluding the data elements: debetorAccount, requestedExecutionDate, requestedExecutionTime. Those three data elements may not be contained in any bulk entry.

4 Accounts

This

4.1