



Íslenskir staðlar

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Technical specification - Digital
Documents



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ÍST TS 314:2022

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2nd edition

Table of contents

Foreword	1
Introduction	2
1 Scope	3
2 Normative references, definitions and data elements	4
2.1 Normative references	4
2.2 Terms and definitions	4
3 Implementation	5
3.1 Service Overview	5
3.1.1 Document Service	5
Bibliography	6

ÍST TS 314:2022

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 standardization) following a public call for participation within TN-FMP. The final draft was sent to the TN-FMP on the 2022-05-XX and approved by correspondence on the 2022-05-XX. The text of ÍST TS-314 was submitted to IST for publication on 2022-0-XX.

The accompanying OpenAPI 3.0.1 definition “IOBWS-Documents3.0.yaml” located at <https://github.com/stadlar/IST-FUT-FMTH/tree/master/Deliverables>, should be viewed as an integral part of ÍST TS-314.

The document “ÍST TS 314_2022 Documents.md” is the source of this rendition, and versions of that document will be used for future errata and clarifications per the procedures to be laid out in the workshop agreement ÍST WA-316, IOBWS 3.0 Technical Guidelines. The 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 monitoring submitted issues and pull requests made to the repository when they fall outside the purview of other regular workgroups. TN-FMP-VH-7 will evaluate if changes are 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 [3] scheme and each minor release will require a workgroup agreement under the “ÍST reglur” referenced above.

The work on the ÍST TS was primarily funded by Arion Banki, Íslandsbanki and Landsbankinn. It is the result of the workgroup TN-FMP-VH-8. In part, the work is based on the earlier technical specification TS-314 authored by TN-FMP-VH-2 on Technical Requirements, and TN-FMP-VH-1 on Business Requirements, with the participation of an external consultant. TS-314 was approved within TN-FMP on 13.9.2021. TS-314 is the next version of the Icelandic Online Banking Services, replacing TS 165:2013 *Rafræn skjöl*.

ÍST TS-314 is not subject to any patent rights. Some specific data elements in the specification can be viewed as derived from version 1.3.8 of the Berlin Group's NextGenPSD2 Framework and therefore the “IOBWS-Documents3.0.yaml” definition is also distributed under a Creative Commons Attribution 4.0 International Public License (CC BY).

This means the YAML Specification for ÍST TS-314 can be copied and redistributed in any medium or format for any purpose, even commercially; when shared, appropriate credit must be given, a link to the license must be provided, and any changes made must be indicated. One may do this in any reasonable manner, however it must not be suggested that the licensor had endorsed it. Additionally, if you remix, transform, or build upon the specification, you may not distribute the modified specification.

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Introduction

This Technical Specification (TS) presents version 3.0 of the Icelandic Online Banking Services (IOBWS) for electronic documents.

Previous versions of IOBWS, released in 2007 and 2013 respectively, used the OASIS SOAP standards which were current at the time to define common web service interfaces for the Icelandic 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, allowing them to act on behalf of the customers and with full access to their data.

A goal of the IOBWS version 3.0 charter, which was set forth by TN-FMP in the beginning, is the transition from SOAP to a REST-like API, which is defined by a recent iteration of the Open API Specification [1]. Along with support for modern authentication and authorization standards, this addresses some of the perceived complexity in adapting IOBWS to various use cases, platforms, and programming languages that have come to the forefront after the release of the previous IOBWS versions.

The ÍST TS-314 is the successor to the TS-160 specification, defining services that encapsulated the system previously known as *Birtingur* and now as *ARK-kerfið*. This system has since the year 2000 enabled enterprises in Iceland to upload information for display based on templates in all of the domestic banks' online user interfaces. The TN-FMP did not substantially alter the functionality available in the previous service but made some possibilities more explicit such as altering or adding a version to a batch of digital documents, and opening up the possibility of more other document storage locations besides *ARK*. See subsection 3.1 for further details.

The ÍST TS-314 specification should be viewed as standalone though part of the IOBWS version 3 framework and adapting the same REST patterns established in the OpenAPI contracts that are part of version 3. It should be emphasized that ÍST TS-314 is not part of NextGenPSD2 framework nor is it in any way related to the PSD2 regulation. The patterns shared by the IOBWS version 3 specifications may however result in some of the elements and types in ÍST TS-314 having similarities to parts of the NextGenPSD2 framework. Attribution applies to these as required by the CC BY 4.0 license of the NextGenPSD2 OpenApi specification.

ÍST TS 314:2022

1 Scope

ÍST TS-314 defines web application programming interfaces implemented by Icelandic commercial and savings banks to expose shared functionality and information for electronic documents, under the Icelandic Online Banking Web Services (IOBWS) framework of specifications.

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 part of IOBWS are optional, the documents aim to be independent of each other.

The focus in ÍST TS-314 is the features needed to create and amend digital documents.

The intended audience for the specification document ÍST TS-314 is developers who will either implement banking API services or the 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 each bank, as they may involve service agreements and the end customers' contractual preferences and benefits.

Out of necessity, the previous IOBWS technical specifications largely consisted of expressing the intent and actual content in a human-readable format, otherwise found in the associated XML Schema and SOAP definitions. The expectation for ÍST TS-314 is that the technical service definitions and JSON data schemas in the accompanying OpenAPI specification can be understood using utilities that can convert them into documentation or navigatable user interfaces.

Consequently, the ÍST TS-314 specification avoids the unnecessary repetition of information found in the technical contract "IOBWS-Documents3.0.yaml". Instead, the document focuses on the information needed to understand the domestic context of services, schema types and service flows required to implement ÍST TS-314.

2 Normative references, definitions and data elements

2.1 Normative references

The following documents are referenced in ÍST TS-314, as part of their content constitutes the requirements of this document. If newer editions exist, only the edition cited applies.

NextGenPSD2 v1.3.8. *The Berlin Group NextGenPSD2 Access to Account Framework*.

OpenAPI v3.0.1. The OpenAPI Specification (OAS) by the OpenAPI Initiative, a Linux Foundation Collaborative Project.

2.2 Terms and definitions

- **ARK-kerfið** is the system owned and operated by Reiknistofa bankanna (RB), for storing and displaying data based on specified templates or whole documents. Previously the system was owned by Greiðsluveitan ehf and known domestically under the name Birtingur.
- **Birtingur**: see *ARK-kerfi*.
- **Checkfree**: see *ARK-kerfi*.
- **Durable medium** (ic. *varanlegur miðill*) refers in the context of ÍST TS-314 to the storage of a document digitally, as a record that cannot be altered and is stored long-term. Current systems guarantee this for at least 7 years. The definition refers to usage in Icelandic law, where the record is permanent after the display to the user and is enforced in the contractual relationship between those institutions with permissions to interface with the ARK-system and RB.
- **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. It is used to identify the sender and receiver of digital documents.
- **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 [2]. Since then, parts of the framework have extended beyond compliance and 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.

ÍST TS 314:2022

3 Implementation

3.1 Service Overview

The functionality offered by the service endpoints is described in the table 3.1.

Table 3.1: Service on offer.

–	–
Document Service	The Document Service offers methods to initiate and update a document, retrieve the status of a document and the types of documents supported by the system.

The subsequent section describes the functionality offered by the service.

3.1.1 Document Service

The Document services focus on supporting the uploading of documents in batches, retrieving information about the status of previous uploads, and optionally updating one or more documents uploaded previously if the system allows it. Though storage in the *ARK-system* can be considered a durable medium, documents or the data that defines them sometime need amending after the initial upload e.g. when a mistake is discovered in the data. This can be allowed based on the document type in question.

The table 3.2 describes the resources found in the NextGenPSD2 based IOBWS-Documents3.0.yaml.

Table 3.2: Service support in ÍST TS-314 and IOBWS-Documents3.0.yaml.

Endpoints/Resources	Description
documents/{document-store-location}	Create a new document batch by store, or get information on previously created document batches by query parameters. Under ÍST TS-314 all banks will support one common document store location 'arksystem', referring to the <i>ARK-kerfi</i> .
documents/{document-store-location}/{sender-kennitala}/{documents-id}	Gets information on a single document batch by ID. Alter updates a batch by ID, if so allowed. The possibility to update a document depends on if the type allows changes. There the definition of durable medium
{document-store-location}/types	Get available document types based on store.

Bibliography

- [1] OpenAPI v3.0.1. *The OpenAPI Specification (OAS) by the OpenAPI Initiative, a Linux Foundation Collaborative Project.*
- [2] NextGenPSD2 v1.3.8. *The Berlin Group NextGenPSD2 Access to Account Framework.*
- [3] Semver 2.0.0. *Semantic Versioning Specification.*