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Version history

Version	Date	Description
1.0	19/02/2021	Document published.

KEY TERMS AND THEIR DEFINITIONS

Abbreviation or term	Description
CSR (Certificate Signing Request)	A Certificate Signing Request formed of the generated key pair (PKCS#10).
Testing certificate	A certificate granted by the Incomes Register's certificate service for stakeholder testing in the WS or the SFTP channel.
Testing organisation	A company or organisation participating in the stakeholder testing of the Incomes Register.
Technical contact person	A person indicated by a testing organisation, to whom transfer credentials for retrieving a certificate are granted.
Testing contact person	The testing organisation's primary contact person in matters involving the testing of the Incomes Register. There can be several testers, but only one testing contact person. Questionnaires concerning the testing are sent to the testing contact person, as are the test records and test addresses required for the tests.
Test customer	Anonymised data on one person or organisation used in the Incomes Register's stakeholder testing. The data of a test customer includes a personal identity code or Business ID and related name.
Data users	Actors who have a statutory right to obtain income or other data from the Incomes Register for the purpose of performing their duties. Data users may only use the data obtained from the Incomes Register for their statutory duties. Data users include the Social Insurance Institution (Kela), the Finnish Tax Administration, insurance companies and unemployment funds.
Data providers	Actors with a statutory obligation to report data to the Incomes Register. Data providers include employers, benefit payers and substitute payers.
Incomes payment record	A record consisting of earnings payment reports, the employer's separate reports or benefits payment reports. During testing, stakeholders create their own artificial incomes payment records, or the Incomes Register generates them as based on the data provided by the stakeholder.
Certificate service	The certificate provider used by the Incomes Register.



Testing start notification	A form that a stakeholder can use to report the information required for starting its testing to the Incomes Register and to approve the terms and conditions of the testing environment.
XML signature	An XML-format signature generated with a valid certificate. In the Incomes Register's stakeholder testing, the testing organisation signs the records sent by it with a test certificate granted by the Incomes Register's certificate service. The signature ensures that the records are intact and unchanged.



1 General

The instructions for the Incomes Register's stakeholder testing describe the implementation of the stakeholder testing. This appendix to the Instructions for the Incomes Register's stakeholder testing is intended to act as practical instructions particularly for stakeholders participating in the testing of the Incomes Register's technical interfaces. Instructions for testing the Incomes Register's e-service are provided in more detail in Appendix 2, E-service testing instructions for data providers.

1.1 Certificate types

Separate certificates are required for the provision and use of data. If the stakeholder tests the provision of both earnings and benefits payment data, it needs separate certificates for both purposes.

If a stakeholder tests the use of both earnings and benefits payment data, it can use the same certificate for testing both data flows. Stakeholders need separate certificates and user IDs for testing the SFTP interface in the EXT1 and EXT2 environments. The same certificate works in both environments for testing the Web Service interface, i.e. for testing the use of both earnings and benefits payment data.

Read more on [the stakeholder testing of the certificate service](#) and [the documentation of the certificate service](#).

2 Generating a testing certificate

1. Once the Incomes Register has processed the testing start notification, the technical contact person receives a message via secure email containing two unique identifiers: the transfer ID (TransferId) and a one-time password (TransferPassword). The email message in question can only be opened with the PIN code sent to the technical contact person's mobile phone in an SMS message.

These messages are delivered to data providers within two weeks and to data users within three weeks of the date on which the organisation delivered the testing start notification to the Incomes Register Unit. The certificate subscription is valid for 14 days from the date the messages are sent. The certificate must be retrieved during this period. If the certificate is not retrieved within the validity period of the certificate subscription, the stakeholder must request a new testing certificate.

The technical contact person will attach the transfer ID and one-time password to the generated certificate request and send it to the certificate service (Web Service interface) for the generation of the retrieval ID (RetrivalId).

Note! Data users who test wages and benefits in the WS interface are not given new certificates for testing benefits payment data; they can use the same certificate.

2. The certificate service receives the certificate request (SignNewCertificateRequest), generates a retrieval ID, and returns it to the recipient.



3. In the acknowledgement of receipt, the technical contact person receives the retrieval ID that the contact person can use to send the certificate request (GetCertificateRequest) to the certificate service's Web Service.
4. The certificate service receives the certificate request and returns a testing certificate (GetCertificateResponse) to the technical contact person.
5. The technical contact person receives the testing certificate and saves it in the software.
6. The testing organisation can now begin testing the interfaces.

Technical instructions for the implementation can be found on the [Certificate Documentation Service](#) page.

3 Using the testing certificate

The testing certificate is used for the signature of records and authentication of parties. The various ways of using the certificate are documented in the Incomes Register documents 'Technical interface – Application guidelines' and 'Certificate service – General description', Section 4.

A sample implementation of message signing has been published on the [Documentation](#) page. [Questions and answers concerning the use of certificates](#) have been compiled on the incomesregister.fi website. More information on testing is available on the page [Certificate service's stakeholder testing](#).

3.1 Signing records

The testing organisation signs the record with an XML signature with the testing certificate granted by the certificate service. Before the record is sent to the Incomes Register, the signature is generated in accordance with the interface description and attached to the record according to the interface description schema.

The same certificate must be used for both Client Authentication and Signature. Additionally, the Creator role of the message to be sent to the Incomes Register must have the same artificial Business ID as the signing certificate.

3.2 Identification of an organisation in the Web Service channels

In Web Service channels, the sending organisation is authenticated with a unique certificate. The organisation uses the certificate as an SSL/TLS client certificate in the Web Service channel, based on which the Incomes Register identifies the sending organisation.

3.3 Identification of an organisation in the SFTP channel

In the SFTP channel, the organisation is authenticated with a public-private key pair linked to the certificate. In other words, the certificate is not directly used for authentication, which is done with the keys linked to the certificate. The organisation uses its own private key, while the Incomes Register holds the organisation's corresponding public key.



3.4 Applying for new testing certificates

Stakeholders can view the testing certificates available to them in the e-service testing environment. The page **Technical interface and certificates** is displayed when the user logs in to the e-service using the artificial personal identity code that has the right to sign for the artificial organisation.

If the stakeholder needs a new testing certificate for a channel that it is already testing, the certificate can be subscribed for in the e-service on the page "Testing interface and certificates" under "Apply for a new certificate". A certificate can only be applied for in the e-service for a channel for which the organisation has previously applied for access rights using the testing start notification. If the stakeholder wants to start using an entirely new channel and needs a certificate for that, it must fill in a new testing start notification.

Read more about applying for testing certificates in the instructions for using the e-service.

The screenshot shows the 'Technical interface and certificates' page in the Tulorekisteri e-service. The page has a dark blue sidebar on the left with navigation options: Tiedon_Kayttajan_Paakayttaja_fi, Subscriptions, Subscriptions made, Settings, Authorisations, Certificates, Return to the front page, and Log out. The main content area has a breadcrumb trail: Front page / Data user / Tiedon_Kayttajan_Paakayttaja_fi / Settings / Technical interface and certificates. The title is 'Technical interface and certificates'. Below the title, there is a paragraph: 'Data can be distributed from the Incomes Register via the technical interface. You need a technical certificate to use the interface.' There is an 'Instructions' icon. Below that is a 'Certificates' section with a paragraph: 'Certificates for your organization are described below. You can also apply for a new certificate. A reminder of an expiring certificate will be sent to the contact person by email.' There is another 'Instructions' icon. Below that is a table with the following data:

Certificate type	Certificate description	Certificate's technical contact person	Status	Period of validity
Data user SFTP	sfppaikkakayttaja2		Ordered	
Data user SFTP	Käyttäjät SFTP		Ordered	
Data user SFTP	sfppaikkakayttaja1		Valid	

At the bottom of the table, there is a button labeled 'Apply for a new certificate'.

Figure 1: Technical interface and certificates in the e-service.

3.5 Renewing a certificate

Testing certificates are valid for two years. Certificates can be renewed at the earliest 60 days prior to their expiration date. The validity of the certificate can be checked in the e-service testing environment or from the certificate. The certificate is renewed in the certificate service interface. There is a separate service in the interface for renewals.

Read more about renewing certificates in the documents [Certificate service – General description \(PDF\)](#) and [Certificate service – Interface description \(PDF\)](#).

3.6 Revoking a certificate

When the stakeholder no longer needs the testing certificate or wishes to revoke the certificate for some other reason, fill in the observation form for stakeholder testing. Enter the certificate's serial number on the form.

4 Test IDs, test customers and test records

4.1 Test IDs

At the beginning of testing, an artificial Business ID (CustomerID) and the related organisation name (CustomerName) have been delivered to the testing contact person for generating a certificate. In addition, the stakeholder will receive an artificial personal identity code with the authority to sign for the company.

- If a stakeholder tests both the provision and use of data, it can use the same Business ID or be provided with two different Business IDs.
- If a stakeholder tests the provision of both earnings and benefits payment data, it can use the same Business ID or be provided with two different Business IDs.
- If a stakeholder tests the use of both earnings and benefits payment data, it must use the same Business ID.

Several certificates can be subscribed for one Business ID for different purposes.

4.2 Test customers

4.2.1 Test customers received from the Incomes Register

The payers and income earners used in testing are primarily the test customers generated by the Incomes Register. Test records generated by the Incomes Register consist of both personal identity codes with linked first and last names and Business IDs with the legal entity's (e.g. LLC, PLC) name. The test customer records have been anonymised so that the data cannot be restored to their original form with any value or an encryption key. The test customer record is thus compliant with the GDPR's (= the EU-wide General Data Protection Regulation 2016/679) requirements, and natural persons cannot be identified from the records by adding data. The personal identity codes and Business IDs of the test customers have been anonymised in a manner that keeps them formally correct and able to pass checks. See Appendix 5 (Instructions on the anonymisation of test data) for details.

After the testing start notification has been processed, the Incomes Register sends, as a PDF file via email, the anonymised Business IDs and personal identity codes including name details to the testing contact person indicated by the organisation (40 Business IDs and 200 personal identity codes). Incomes payment reports will be accepted even if the names are changed, but using the names provided by the Incomes Register is nevertheless recommended. The name data must also always be artificial.

Organisations are free to choose the number of income earners per each payer with a Business ID.

If the testing organisations needs more test customers, a request must be submitted with the testing contact form, which can be found on the incomesregister.fi website.

4.2.2 Adding the stakeholder's own test customers to the Incomes Register's stakeholder testing environment

If necessary, the Incomes Register can export the stakeholder's own anonymised test customers to the Incomes Register's stakeholder testing environment, in addition to the test customers provided by the Incomes Register at the start of testing.



Stakeholders may submit a reasonable number of their own test customers, such as 10 Business IDs and 40 personal identity codes. The adding of these test customers requires the stakeholder to deliver the data to the Incomes Register in an Excel file. All customer data used in testing must be anonymised. For more information, see Appendix 5, Instructions for the anonymisation of test data. The files are sent to the Incomes Register with the testing contact form.

If a test customer sent by a stakeholder already exists in the Incomes Register's stakeholder testing environment (e.g. the same Business ID or personal identification number with a different name), data on the existing test customer will not be imported into the Incomes Register's test environment. The stakeholder will be notified of which test customers were added to the Incomes Register's stakeholder testing environment and which, if any, were already found in the stakeholder testing environment.

To facilitate the management of the files, please include the name of the sending organisation in the name of the file being sent. Compose the file name as follows: organisation's name – type of IDs – test customers.

Number the file to be sent so that new files with similar test customer data can be sent in the future if necessary.

Deliver the personal identity codes and Business IDs as separate files. The data of each test customer will be provided in different columns and on its own row.

Individual customers

The following data will be reported for test customers with a personal identity code in this column order (A, B, C):

Personal identity code, First name(s), Last name

Corporate customers

The following data will be reported for test customers with a Business ID in this column order (A, B):

Business ID, Name

4.3 Incomes payment records for data providers

Data providers are responsible for creating their own incomes payment records in the stakeholder testing environment.

4.4 Incomes payment records for data users

Data users will require various earnings and benefits payment records for testing. As a rule, incomes payment reports generated by data providers will be used in the Incomes Register's stakeholder testing. The incomes payment reports are distributed to the data users in the testing environment in accordance with the organisations' data access rights.

In addition to these, the Incomes Register can generate incomes payment records in the Incomes Register's stakeholder testing environment if required by users.



The earnings and benefits payment reports required by data users are generated in the Incomes Register using the Excel tool. The Incomes Register will deliver an example of the worksheet as a file attachment to data users requiring it. The Excel template contains a simple example of either an earnings payment report or a benefits payment report. The Incomes Register will export the reports into the testing environment.

Excel worksheets can be requested with the testing contact form. There are separate worksheets for earnings and benefits records.

Feedback on erroneous data will be sent by the third business day from receipt. Feedback on the successful generation of the incomes payment record in the stakeholder testing environment and any errors will be delivered by email to the party that sent the worksheet.

5 Additional information

The technical documentation used in stakeholder testing has been published on the [Documentation](#) page and the [Certificate Service](#) page at incomesregister.fi.

[Certificate service – General description \(PDF\)](#) [Certificate service – Interface description \(PDF\)](#) [Certificate service's technical interface – ZIP – For application developers](#) [Technical interface – Application instructions \(PDF\)](#)

