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Guide

Introduction of the global Structured Creditor Reference in Finnish companies

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1. Use of the Creditor Reference in invoicing

For many decades now, Finnish companies have used creditor references based on a Finnish standard for the purpose of identifying invoices in domestic invoicing. The creditor reference allows companies to automate various financial administration processes.

The invoicer receives the data on a payment with a creditor reference from the bank as incoming reference payment data, and the invoicer's accounts receivable ledger is automatically updated on the basis of the data. The system uses the creditor reference to reconcile the payment with an outstanding invoice in the ledger, and the invoice is acknowledged as paid. Creditor references are commonly based on customer or invoice numbers or other comparable information which identifies the invoice.

See the description on the Federation of Finnish Financial Services website: [Reference number and check digit](#)

When a creditor reference is used

- The creditor (payment beneficiary) includes the creditor reference on the invoice or credit transfer form sent to the payer. The invoice may be either in printed or electronic format.
- The creditor reference is standardized and includes check digits as provided in the guideline on creditor reference structure, allowing validation of its plausibility.
- The payer or the payer's bank validates the creditor reference when capturing the invoice data.
- The payer's bank transmits the creditor reference to the beneficiary's bank as part of the remittance information.
- The creditor's bank may provide the data on received reference payments to the creditor as agreed, either as a separate file or on an account statement.
- The creditor automatically reconciles the payments with a creditor reference with outstanding invoices in the ledger.
- The use of the creditor reference in credit notes also allows automated reconciliation of a payment which settles the credit note.

Following the introduction of a global structured creditor reference (RF Creditor Reference, RF reference) standardized by the International Organization for Standardization (ISO), the benefits offered by the creditor reference will also be available in cross-border payments, particularly as concerns SEPA payments. The global creditor reference (RF reference) may be used in both domestic and cross-border invoices from December 2010 onwards. No decision has been made on whether use of the Finnish creditor reference will be discontinued.

1.1 Factors affecting the use of the RF Creditor Reference

When planning upgrades to financial administration systems due to the introduction of the RF reference, or the most appropriate introduction schedule, companies should consider the various aspects of the financial administration processes (including invoicing and reconciliation



of incoming payments) to ensure that their automated reconciliation processes will not be negatively affected and that the transition to the RF reference will be smooth.

International business operations

Companies with large volumes of cross-border invoices, particularly in the SEPA area, will benefit from the introduction of the RF Creditor reference, provided that their international business partners also use the RF Creditor reference when making payments. In domestic invoicing, the introduction of the RF Creditor reference will not increase the level of automation concerning the reconciliation of incoming payments in the creditor's system, compared with the use of the Finnish creditor reference.

Different invoicing methods

If the company reconciles card and online payments in the same ledger as account transfers, it must be noted that for the time being, the Finnish creditor reference only may be used in these services. The RF Creditor reference cannot be used in the Finnish direct debiting scheme, or direct debit authorisations, which will be terminated after the transition period.

Account reporting

The introduction of the RF Creditor reference can be scheduled to occur at the same time as the adoption of ISO 20022 XML account reporting (B2C), as the new RF Creditor reference will be forwarded unchanged to the new account reports (excluding services where the RF Creditor reference cannot be used).

1.2 Benefits and advantages to the creditor

From the perspective of the company, use of the global creditor reference is as efficient as the use of the Finnish reference. However, since the global creditor reference may be used in cross-border invoicing, this allows creditors to more fully utilise its benefits.

Benefits in invoicing

- Applicable to both business-to-business and business-to-consumer invoicing
- May be used in domestic and cross-border invoicing
- May be used with almost all invoice formats: with e-invoices, paper invoices and credit transfer forms, credit notes, SEPA direct debiting and online payments

Benefits in invoice collection

- Efficient monitoring and reconciliation of payments
- Incoming payments may be automatically reconciled with outstanding invoices in the accounts receivable ledger
- Fewer errors in the processing of incoming payments
- Facilitates payment reconciliation also in cross-border invoicing
- Brings cost savings



Benefits in ledger management

- Supports an automated invoicing process
- Improves the predictability of liquidity

Benefits in sales

- Faster release of sales limits

1.3 Benefits and advantages to the payer

The use of the RF reference also provides benefits to the payer. It improves the efficiency of payment processes.

- In addition to the creditor reference, no other invoice specification is required
- Reduces errors
- Reduces the need for investigations as well as unnecessary reminders
- References may also be used with cross-border invoices, particularly in the SEPA area

2. Implementation at the creditor

2.1 Global creditor reference on the invoice form and credit transfer form

The introduction of the RF Creditor reference does not necessitate changes to invoice forms or credit transfer forms. The credit transfer form complies with the current standard. The RF Creditor reference is printed in the same fields on the invoice and the credit transfer form as the current Finnish creditor reference. However, note that unlike the creditor reference complying with the Finnish standard, the RF Creditor reference is printed in groups of four digits from left to right.

An example of the credit transfer form, jointly standardized by banks operating in Finland, and instructions, is available from the website of the Federation of Finnish Financial Services.

Click on the following link: [Bank Transfer Guidelines](#)

If the credit transfer form includes a bar code, version 5 of the bar code standard must be adopted at the same time with the introduction of the RF Creditor reference. Version 5 includes both the IBAN and RF Creditor reference. The description is available on the website of the Federation of Finnish Financial Services. Click on the following link: [Bank Bar Code Standard](#)

As the RF Creditor reference will – at least initially – be unfamiliar to payers, it is advisable to provide instructions on the use of the RF Creditor reference on the invoice form. For example, the following text may be used: "When paying the invoice, use the RF Creditor reference provided in the credit transfer form. If the RF Creditor reference is not accepted by the payment system, omit the first four characters and enter the remaining element as the reference."



2.2 Creating the global creditor reference

In Finland the RF Creditor reference must be formed from a creditor reference created according to the current Finnish standard. It is advisable to keep the creditor reference as short as possible as this will make entering the payment easier.

The RF Creditor reference begins with the capital letters RF, followed by two check digits calculated using the algorithm specified in the ISO standard. The check digit algorithm is the same as the algorithm used for calculating the check digit for the IBAN account transfer.

Example:

The current Finnish creditor reference is 12345 675, in which the last digit is the check digit calculated according to the Finnish algorithm.

The RF Creditor reference created on the basis of this creditor reference is RF99 1234 5675.

A more detailed description of the calculation of the RF check digits is available in the Appendix to this document.

2.3 The global creditor reference in e-invoicing service

The RF Creditor reference may be used with e-invoices complying with the Finvoice standard. If the RF Creditor reference is used, it is included in the EpiRemittanceInfoIdentifier field as provided in the Finvoice description.

Finvoice description

2.4 Global creditor reference in direct debiting services

The RF Creditor reference cannot be used in the Finnish direct debit scheme. If the creditor has introduced the RF Creditor reference for use in its accounts receivable ledger, the first four (4) characters of the RF Creditor reference must be omitted when creating the direct debit data. Only the remaining element, which corresponds to the current Finnish creditor reference, is included in the direct debit data.

In the authorisation data transferred from the bank to the creditor, the creditor reference complies with the structure of the Finnish creditor reference. Where necessary, an RF Creditor reference may be created on the basis of a short creditor reference by adding the letters 'RF' at the beginning of the reference and calculating the two check digits using the check digit algorithm.

Received direct debit payments are shown in the Incoming Reference Payments data and in ISO 20022 XML reporting, with the Finnish creditor reference.

The RF Creditor reference may be used in SEPA direct debiting.



2.5 RF Creditor reference with online payments

The use of the RF Creditor reference in connection with payments made in online stores using the online payment button depends on the bank. Contact your own bank for more information.

2.6 RF Creditor reference with card payments

The current EMV standard supported by the Federation of Finnish Financial Services does not support the RF Creditor reference. The creditor reference used in the payment terminal system complies with the Finnish creditor reference standard and may consist of a maximum of 20 digits. Thus when card payments are remitted, the remittance information forwarded to merchants collecting card payments always includes the Finnish creditor reference.

The payment terminal system description will be updated at a later date, which will make it possible to use the global RF Creditor reference with card payments.

2.7 Global creditor reference in incoming payments reporting

In ISO 20022 XML account and transaction reporting (B2C), the global RF Creditor reference is displayed in full in the CreditorReferenceInformation field, provided that the payer entered the reference in RF format.

The creditor must be prepared for a situation where, even if the invoice contains an RF reference, the reference may be shown in the abbreviated Finnish format, even in XML reporting, if the payer provides the reference in the Finnish format when making the payment. The bank will forward the creditor reference to the beneficiary in the format entered by the payer.

Further information on the contents of XML account and transaction reporting can be found on the website of the Federation of Finnish Financial Services. Click on the following link:

[ISO20022 Transaction Reporting Guide](#)

In the Electronic Account Statement and Incoming Reference Payments data complying with the Finnish standard, the field reserved for reference information is not long enough for the RF Creditor reference. In existing services, the reference information can be abbreviated by omitting the first four (4) characters of the RF Creditor reference. Where the creditor has created the RF Creditor reference on the basis of the current Finnish creditor reference as instructed, this abbreviated creditor reference is identical with the current Finnish creditor reference.

The RF Creditor reference may be adopted in invoicing, irrespective of the transaction reporting services used.

Depending on the account reporting method, the RF Creditor reference of an incoming SEPA payment is forwarded to the beneficiary either in full (XML reporting) or as abbreviated (Electronic Account Statement and Incoming Reference Payments). It is transferred to the creditor as a reference when the payment message received from another bank contains the reference in the appropriate field.



As concerns incoming cross-border payments, the RF Creditor reference is reported to the creditor in the reference information field in account and transaction reporting, provided that the original payment message sent by the foreign bank contains the RF Creditor reference in an identifiable format.

2.8 The global creditor reference as allocation information in accounts receivable ledger updating

The RF Creditor reference may be adopted in invoicing even if the accounts receivable ledger is not immediately updated.

If the accounts receivable ledger does not support the RF Creditor reference:

- It is possible to use the Incoming Reference Payments service, where the reference is in the short domestic format
- When XML-based account and transaction reporting is used, the first four (4) characters of the RF Creditor reference should be omitted for the purpose of payment reconciliation.

If the accounts receivable ledger supports the RF Creditor reference:

- It is possible to use the XML-based account and transaction reporting where the reference is in the global format (RF)
- When Incoming Reference Payments or Electronic Account Statement services are used, an RF Creditor reference may be created on the basis of the Finnish creditor reference using the IBAN algorithm.

3. Implementation at the payer

During the period in which the Finnish creditor reference and the RF Creditor reference are used in parallel, a payer in Finland may receive invoices with different types of creditor references, namely:

1. domestic invoices with a current Finnish creditor reference
2. domestic invoices with an RF Creditor reference
3. cross-border invoices with an RF Creditor reference

N.B.! The payer must not convert the Finnish creditor reference on the invoice into an RF reference, as automated reconciliation of incoming payments at the creditor is based on the creditor reference shown on the invoice.

The first four (4) characters of the RF Creditor reference may be omitted, however, if the company's systems do not support the RF Creditor reference.

3.1 Entering the invoice data in the accounts payable ledger

It is recommended that when entering the invoice data, the payer should validate the data, including validation of the RF Creditor reference in accordance with the RF Creditor algorithm,



to prevent errors when capturing the invoice data.

1. If the invoice contains a Finnish creditor reference:
 - The payer carries out the same actions as today and the accounts payable ledger system validates the reference using the Finnish check digit algorithm.
2. If the domestic invoice contains an RF Creditor reference and
 - a. the accounts payable ledger is capable of processing RF Creditor references, the system validates the RF Creditor reference and saves it in the accounts payable ledger
 - b. the accounts payable ledger only supports the Finnish reference, the system omits the first four (4) characters of the RF Creditor reference and only saves the basic reference element. In this case the accounts payable ledger system processes the Finnish reference as in item 1.
3. If a cross-border invoice contains an RF Creditor reference and
 - a. the accounts payable ledger is capable of processing RF Creditor references on cross-border invoices, the system validates the RF Creditor reference and saves it in the accounts payable ledger as the creditor reference
 - b. the accounts payable ledger is not capable of processing RF Creditor references on cross-border invoices, the RF Creditor reference, must be carefully entered in the reference field in the accounts payable ledger, in full and as it appears on the invoice, since the Finnish creditor reference check digit algorithm is not applicable to the basic reference element. The reference is saved as the creditor reference (in order to create structured Remittance Information for the invoice) or other invoice-specifying information (message), if the accounts payable ledger does not support the creditor reference in cross-border invoices.

3.2 Initiating payments from the accounts payable ledger

The ISO 20022 payment data format (C2B XML) supports both the RF Creditor reference and the Finnish creditor reference. When creating C2B XML payment data, the RF Creditor reference is entered in the CreditorReferenceInformation field in accordance with the application guidelines.

The Finnish payment standards (LM02, LM03, LUM02), which will no longer be applied, do not support the RF Creditor reference. When creating the domestic payment data (LM02, LM03), the creditor reference is entered in the creditor reference field on the invoice in the Finnish format. In cross-border payment data (LUM02), the RF Creditor reference is entered in the ‘remittance information for the beneficiary’ field ”(Maksun aihe saajalle tiedoksi)”.

3.3 Use of the RF Creditor reference with payments made via the banks’ other payment channels

In other payment channels (online banks, payment ATMs, branch offices or payment services) the payer may enter the RF Creditor reference as part of the payment data in the same way as the Finnish creditor reference.



4. Implementation at the payer's bank during the period in which the different creditor references are used in parallel

Banks approve and validate both RF Creditor references and Finnish creditor references in all payment channels where the payer or the bank's employee may manually enter payments. Thus any typing mistakes may be corrected at once.

Banks validate the Finnish creditor reference according to the Finnish creditor reference algorithm and the RF Creditor reference according to ISO/IEC 7064 (MOD 97-10).

If the payment is transferred between banks in the domestic payment system, the first four (4) characters of the RF Creditor reference are omitted and the basic domestic reference element only is forwarded with the payment. If the check digit is not correct, the reference is forwarded in the message field in the domestic payment system.

If the payment is transferred as a cross-border payment, i.e. in the SWIFT system using an MT103+ message, the RF Creditor reference is forwarded, unchanged, in field 70.

Appendix

Structure of the global Structured Creditor Reference (ISO 11649) and calculation of the check digits

A creditor reference allows a company to identify customer invoices. Payments with a creditor reference are forwarded to the beneficiary in accordance with what has been agreed on the remittance of reference payments.

The Finnish creditor reference (see the Federation of Finnish Financial Services publication Reference number and check digit) is used in domestic payment traffic. The new global Structured Creditor Reference (ISO 11649, hereinafter 'RF Creditor reference') may be used on cross-border invoices and domestic invoices in Finland as of 1 December 2010.

The RF Creditor reference is based on the Finnish creditor reference

In Finland, the RF Creditor reference is based on the Finnish creditor reference

The structure of the RF Creditor reference is as follows:

RFXX1234561, where

- **RF** is the identifier of the RF Creditor reference
- **XX** are the two check digits

1234561 is the Finnish creditor reference, which consists of numerical digits only and which the creditor may create freely within the limits of the maximum reference length of 20 digits. The last digit is a check digit calculated using the check digit algorithm for the Finnish creditor reference (see the Federation of Finnish Financial Services publication Reference number and check digit.)



A short creditor reference is the best choice

In order to avoid typing errors, a creditor reference should be short. The purpose of the check digits is to prevent erroneous data from being recorded.

No leading zeros; grouping in four-digit groups

The RF Creditor reference is printed in the field reserved for the creditor reference on the credit transfer form, from left to right and arranged in four-digit groups separated by an empty character space. The leading zeros in the Finnish creditor reference element are not printed out. The creditor reference must also be included in the part comprising the invoice, if any.

Calculating the check digits in the RF Creditor reference

The RF Creditor reference includes two check digits, which are calculated on the basis of the Finnish creditor reference as follows:

- Add the number string “2715” (which corresponds to the letters ‘RF’) and “00” at the end of the Finnish creditor reference.
- Calculate modulo 97, i.e. the remainder obtained when dividing the number in step 1 by 97.
- Subtract the remainder from 98 to obtain the check digits. If the difference is less than ten, add a leading zero before it.

Example for the calculation of the check digits in the RF Creditor reference

- The Finnish creditor reference is 2348236, in which the last digit is the check digit.
- Add “2715” and “00” to the end. The result is 2348236271500.
- When this number is divided by 97, the remainder is 65.
- Subtract the remainder from 98 to obtain the check digits, 33.
- Add the letters ‘RF’ and the check digits before the basic creditor reference element to obtain the RF Creditor reference:

RF332348236 (machine-readable format) or
RF33 2348 236 (paper format).

Validating the check digits in the RF Creditor reference

If the RF Creditor reference is in paper format, delete the empty character spaces. Move the first four (4) digits to the end of the RF Creditor reference.



Replace any letters with numbers as shown below.

A = 10	G = 16	M = 22	S = 28	Y = 34
B = 11	H = 17	N = 23	T = 29	Z = 35
C = 12	I = 18	O = 24	U = 30	
D = 13	J = 19	P = 25	V = 31	
E = 14	K = 20	Q = 26	W = 32	
F = 15	L = 21	R = 27	X = 33	

Apply modulo 97, i.e. calculate the remainder by dividing the number obtained in step 3 by 97. If the remainder is 1 (one), the check digit is correct.

Example for the validation of the RF Creditor reference

- The RF Creditor reference to be validated is RF712348231
- Move the first four (4) digits to the end of the reference: 2348231RF71
- Replace the letters with numbers: 2348231271571
- Divide this number by 97
- The remainder is 1, which means the check digits are correct



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