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RTvat:

Outline of proposed real-time VAT collection system to increase efficiency of collection, maximise revenue, minimise fraud and reduce administrative burden on businesses

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OUTLINE OF A MODERNISED VAT SYSTEM UNDER A REAL-TIME COLLECTION SYSTEM AS DEVELOPED BY RTVAT.

Today the EU has a mature VAT system which is resistant to change but is showing stress. In the views of the authors of this note, both the level of stress here and the global economic situation warrant bold steps. Technology applied to managing processes and information flows has transformed the way in which business functions but has not really had much impact on a tax system that is more than 50 years old. At some stage, the way in which VAT is collected will have to change also, a change not merely of degree but also of kind. Whether this process starts today or at some later stage when a sclerotic system has ground to a halt, is a question for governments. This note outlines how an electronic system could be used to modernise VAT using technology and systems which are common in the payment and settlement industries.¹

Such changes will reduce administrative costs and revenue losses in the collection of VAT. Although some elements could be adopted by individual Member States at national level under existing community legislation, full implementation can only be achieved through legislative changes requiring unanimity. The technical elements in the basic structure outlined below are relatively straightforward and can be achieved cost-effectively and rapidly since they are based on systems already in use today. The nature of the changes required are those which have already been embraced successfully elsewhere.

The basis of the proposal is:

1. A move to real-time collection of VAT including the settlement of allowable reclaims based on the time of actual payment by the buyer to the seller of goods and services.
2. The charging of VAT on all intra-EU transactions, as foreseen in the original Single Market proposals.

The technical obstacles which frustrated implementation of the latter proposal can now be overcome, with intra-EU transactions handled through a secure network of processor servers. This in itself will virtually eliminate carousel fraud. Movement to real time collection - i.e. as VAT is paid on a transaction it is remitted to the relevant tax authority - means that the current situation where many merchants effectively receive unsecured interest-free loans on an indiscriminate basis from the tax authority is ended.

Financial systems in the modern world run in real time but the VAT system continues to run on an extended period batch system. This built-in lag, which may be of several months, means that governments are unable to use the advances in technology that are at the heart of business control systems. There is accordingly a long gap between the events which matter – the charging of tax on individual transactions – and the time when tax administrations can identify and react to problems.

The RTvat system has at its heart the objective of shifting VAT from batch to real time, and in so doing to enhance the efficiency of the tax system. Its structure is designed to be secure and controllable, with flexibility for national tax administrations to control tax rates, derogations and special national practices as well as national data and reporting requirements within a generally agreed

¹ For brevity, this note is drafted as a high level overview of how a revised VAT system would function. It therefore leaves aside many areas of detail. These include, but are not limited to, the exempt activities of taxable persons such as municipalities and local authorities, universities, schools and hospitals where particular circumstances apply, not least for cross-border transactions. Neither does the note cover dealers' margin based schemes or other margin schemes. RTvat would nevertheless be happy to elaborate on such issues at a later point as the system envisaged is sufficiently flexible to cover all eventualities.

minimum standard. It is based on systems that are open standard and do not restrict entry for service suppliers.

Fundamental assumptions on the VAT system.

Modernising the system has to take account of the way VAT functions and the role of the different players. For VAT purposes, transactions break down in a number of defined categories and any reform has to recognise this.

Distinguishing between B2C and B2B transactions is and will remain fundamental in VAT. The regime for intra-Community B2C transactions is not as rational as it might be with fundamental differences between services and goods as well as undue complexity in the rules for taxing the latter. It is not necessary to change these, but a more scientific tax system might encourage rationalisation.

B2B transactions must also distinguish between domestic and intra-Community sales. Taxing intra-Community transactions, as proposed, will not entirely end this distinction as there will still be differences in treatment attributable to national tax rates, exemptions and other factors. There are, and will remain, systemic differences attributable to the person liable for the tax and the tax authority entitled to receive it.

For B2B transactions the invoice remains a key part of any operations, identifying the parties to the transaction, describing its nature, setting out the computation of the tax and providing all the other information needed to complete payment of both the underlying commercial transaction itself and the tax. Furthermore, the tax invoice provides information which is essential to establishing the buyer's claimed input credit on the transaction.

Technology can be used to change the collection of tax so that systemic losses and openings for fraudsters are minimised. To the maximum extent possible, the correct tax authority should receive the correct VAT amount as close to the time of payment of the transaction as possible. All the information needed to be able to make a real time, informed decision on whether or not to grant a request for a refund must be available. Tax authorities can control parameters for refunds including restrictions. However, for compliant businesses with good track records, the process of dealing with refund requests could virtually be automated.

Encouraging a general move to electronic payments is an important part of the model. The role played by cash and cheques is declining, particularly in intra-Community trade and may in time disappear completely.

For intra-Community transactions, the optimal model for the collection of VAT is that the buyer (who is seen as the person liable for the tax under the envisaged model) pays this to the tax authority entitled to the tax (usually his own national administration) without these funds ever passing through the seller's hands.

For domestic B2B transactions, a similar system of direct settlement of the tax amount at the time of the buyer's payment is envisaged.

Electronic payment is yet universal however, although it dominates intra-Community settlements and the roll-out of SEPA should complete this process. Within individual Member States, cheques and cash will remain, albeit at a declining level, and will inevitably have to be handled by the seller. If however these transactions are domestic, the risks in tax revenue passing via the seller are manageable.

B2C operations should follow broadly the same channels but special factors may arise as required.

Payment for goods or services does not always take the form of money but may take another form such as a reciprocal supply of goods or performance of, or refraining to perform, some act. Payment

may involve third party consideration or non-monetary vouchers. The RTvat model can accommodate these arrangements² which in most instances can be more easily controlled in a real time environment than under the current system.

Design of server network

To process both intra-Community and domestic transactions a network of twenty-seven identical servers which are linked and act as the communication and funds transfer centres in each Member State will be established.³

These server systems may be broken down into sub-sectors where different areas within a Member State have separate local tax authorities, such as in the situation with the German Länder. In this case, the sub-national authority can have its own server, but all data is also stored and managed at the federal level.

The server network links to existing legacy systems and current national reporting formats can be retained. The enhanced quality of data as well as direct access to the server will enable tax administrations to improve the quality of reports and the verification of taxpayers' activities.

Any bank that wishes to transact payment services involving tax settlement for merchants will require a secure link, using an open standard, to the server network (consistent with the SEPA). RTvat believes that the introduction of a new dedicated B2B debit card linked to both the buyer's VAT identity and business bank account should be encouraged⁴.

Merchants' (taxable persons') tax profiles are established and stored securely on the national server.⁵ The fraud analysis function which is integrated with the system assesses each transaction entered by the taxable person for conformity.

This assessment is made on the basis of the data held on each taxpayer, as described above, together with details of the transactions which are under review, including cross matching of invoices, in order to generate within seconds one of the following outcomes:

- Identification of transactions requiring a more detailed audit follow-up
- Identification of requests for refunds which should be suspended, pending follow-up.
- Identification of situations which require immediate follow up
- Transactions which fall into none of the above categories and can be processed.

In addition, every taxable person has the opportunity to secure their accounting data in an electronic 'lock box' on the national server in order to assist their own account keeping and to ensure consistency with tax records. This data may act as the generator of all of their tax reporting, as well as providing a structured interface to a common format of e-invoicing.

² For reasons of brevity, their treatment is not detailed here.

³ This note focuses on the changes to the VAT system and does not go into detail on the human and technical resources needed for the server network.

⁴ For similar reasons, a full outline of the functioning of the dedicated B2B card goes beyond the scope of this note.

⁵ See Table 1.

The national servers are interlinked to ensure the necessary data is available and up to date so that the seller can generate an invoice for each intra-Community transactions. This includes buyer's tax status (business or non-business) as well as tax rates.

The following structure applies to all electronic transactions, i.e. those that are bank-based transfers or are SEPA-compliant debit cards.

The format of the dedicated server network

The SEPA structure demands that all payment networks be capable of passing XML data in a compatible format, and at an acceptable price. The RTvat server network design takes this concept forward so that three other facets are incorporated:

1. Each Member State has its own server with all domestic transactions being processed by that server.
2. The separation of the VAT amount from the payment to the seller of any net amount is a simple task to be performed at the server. This can be applied to all electronic payments, whether bank or card-based.
3. The network of servers in each country is secure and in real time. The fraud scrubbing function also operates in real time, so that fraud control officers can be checking on doubtful trades in minutes. (The tax administrations can also decide to delay any doubtful refund requests for as long as they wish.).

This format enables each government to have complete confidence about the security of data on the system, while being structured so that the movement of necessary data to other tax administrations via their own local servers will be handled correctly and quickly.

The role of the server network is similar to that of Visa, i.e. the fund flow passes through a central point and is distributed fully from there. In Visa's case, the only deduction made before transfer of funds to the seller's bank is the fee for interchange. In the RTvat server network solution, the amount of the deduction is the VAT due on the transaction, as well as the fees payable.

There are 27 different servers, one per Member State. All domestic transactions are managed locally. Certain intra-Community transactions, notably B2C, involve a net daily settlement between pairs of Member States to ensure revenue flows to the correct tax authority. For B2B intra-Community transactions, tax revenue passes to the buyer's tax authority directly.

How transactions are treated under the RTvat model – who does what?

The common features of the system are as set out above. There are inevitable variations in commercial practice and in the VAT system itself which will result in a need for different approaches to the collection of VAT.

Some of the more economically important formats are described in a step by step basis in the attached tables⁶.

Table 2 - Transaction flow for intra-Community B2B transactions settled by electronic transfer.

Table 3 - Transaction flow where buyer provides card data to seller either at POS or by web-based interface or by arranged direct debit agreement.

⁶ Although these are the most significant categories, not all types of operations are covered in this short working document. The system envisaged however is both scalable and transposable.

Table 4 - Transaction flow for domestic B2C transactions where buyer pays in full for goods or services at the place and time where delivered.

Although tax is for the most part collected (and refunded) under a real time and largely automated system, this occurs on the basis of data supplied by the taxable person. A periodic return (monthly, quarterly or annual) will continue to be required to allow the taxable person to confirm the correctness of the information on individual transactions over the period and that all taxable activities have been correctly accounted. Given the nature of the automated system and the associated record-keeping system however, the preparation of this report should not be onerous.

SOME BASIC QUESTIONS ON THE RTVAT MODEL

Why has this not been looked at before – and will it work?

The improvement in data collection and processing speed is something that seems to have been overlooked by government. What would have been hard, if not impossible, ten years ago is now very straightforward.

A key part of the structure is that all of the servers are new, identical and with the data written to cross-fertilise with the other 26 servers as and when needed – in seconds. Each server will interface with the tax authority's existing database in its own country but the network is independent of national legacy systems.

The format replicates the existing real time model of the credit card industry. VAT is collected at the point at which payments are made. The process for credit cards is similar, separating out the interchange fee at the server level as funds pass from the buyer's bank to the seller's bank. The RTvat system makes the same extraction, pulling out the VAT and paying that to the tax authority concerned.

Who owns and operates the server network and what are the costs?

The proposal is that each national server is separately owned and operated by a national Public/Private Partnership (PPP). The basis would be as follows:

1. The private sector participants fund the investment and operational cost of the technical infrastructure required for the network. Human resource costs are borne by the PPP. Reduction of fraud, administrative costs and cash-flow advantages are totally for the benefit of the tax administrations.
2. The tax authority would also receive a percentage of any operating surplus.
3. Revenue come from a transaction fee on each electronic payment, charged to the taxable person. The fee is based on a fixed amount per transaction and where B2C transaction receipts are processed in bulk, the flat fee would still apply per batch.

Why a PPP?

The investment costs in creating the infrastructure may not be appealing to Governments under current circumstances, even though the increased income is badly needed.

The potential for improved efficiency is more than sufficient to attract private sector investment.

For businesses who are users of the system, in their role as taxable persons, the transaction costs they incur are more than balanced by the savings in reduced compliance burdens.

However, if it were to be the case that governments wished to own and operate the RTvat system, this is also an available option. The danger of such a course is that it would bring about considerable delays, not least due to getting approvals of initial expenditure in a time of belt-tightening.

What is the role of the fraud analysis offered by the RTvat system?

Real time fraud analysis has been an essential part of the credit card processing business for many years. The imperative with worldwide credit card purchases is to stop a transaction taking place within five seconds of the data being sent to the server where a potential fraud is identified.

The fraud analysis system is central to vetting refund requests, including matching the supplier's invoice details (outputs) with that of the customer (inputs). This will ensure greater reliability in the refund process as well as a reduction in the cost and turn-around time. It will also play a role in identifying and isolating other sources of fraud such as under-reporting, misclassification and the presence of unregistered traders in the system.

An experienced and trained team of professional fraud checkers is an essential part of the process of countering fraudsters. This will probably involve training officials from the tax administrations to bring them to the level of commercial fraud checkers.

With opportunities for carousel fraud being closed off, fraudster will look for the next weakest point in the chain, Rapid detection and isolation of fraud, using the fraud detection tools, will minimise or even eradicate risks here.

When do the tax administrations get the data on transactions?

There are three ways they can receive the reports:

1. Under real time access to the local server.
2. On a daily batch basis; this allows them to keep within 24 hours of being up to date on all transactions and to reconcile tax receipts.
3. Delayed historic basis in line with taxable persons' declaration and periodic reporting obligations.

When is the taxable event?

The taxable event will normally remain the supply by a taxable person for consideration of goods or services within the territory of the Community or the acquisition of goods or services from a third country for consideration by a taxable person. The fact that the timing of tax settlement is going to be at the same time as the payment for goods or services does not change the taxable event.

Where does liability for the tax debt fall at each stage of the process.

The established general rule of VAT is that the taxable person making a supply of goods or services must pay the tax on the transaction. For B2B supplies within the same Member State, no change is envisaged. For B2C supplies, existing rules would continue to apply. Under the existing rules, VAT become chargeable and the tax debt is created when the tax administration becomes entitled to claim the tax from the person liable to pay, even though the time of payment may be deferred.

In order however to avoid the complexity of a cross border clearing system for VAT, where the recipient of the taxed goods or services is a taxable person in another Member State, this liability passes when the tax inclusive price of the transaction is invoiced by the supplier⁷.

The tax to be shown on the invoice is computed according to the rates and other rules of the Member State where the liability arises. For a cross-border intra-Community B2B transaction, this will normally be where the recipient of the goods or services is established and to where the supply is made. It is therefore appropriate that the customer, to whom any entitlement to a right of deduction accrues, is recognised as liable for the tax to their own tax administration from the date of the invoice

⁷ Except where otherwise necessary, the existing rules on the obligation to issue an invoice in Articles 220 to 236 of the VAT Directive should continue to apply.

to the point at which the tax is paid. Moreover, Member States already have a general option to make someone other than the supplier jointly and severally liable for the tax.

The liability for the tax is normally discharged at the time a supplier is paid for a transaction, but the tax element of the payment does not reach the hands of the supplier. For payments by bank transfer, credit card or other electronic means, this will normally be the case. Where the supplier is paid by cheque or cash, it would be a requirement that the tax component is paid to the tax authority no later than the point at which the suppliers banks the non-tax part⁸.

The liability is not however fully exhausted until the funds are in the hands of the appropriate tax administration.

⁸ The fraud tools will have functionality to rapidly identify incorrect treatment or misrouting of cash and cheque receipts. Suppression of tax receipts in this manner can be contained but is unlikely to be eradicated completely.

TABLE 1

PROFILE OF TAXABLE PERSONS, WHICH UNDERWRITES THE FRAUD SCRUBBING FUNCTION, SHOULD INCLUDE THE FOLLOWING DATA FIELDS:

- VAT identification number.
- Fixed establishments linked to this VAT number.
- Name and address(es) of taxable person.
- Main business activities (descriptive or code based)
- Monthly patterns of sales for last 5 (less or more ?) years, broken down as follows:
 - Turnover in goods and in services within own MS.
 - Ibid, other MS.
 - Ibid, third countries.
- Monthly patterns of purchases for last 5 (less or more?) years, broken down as follows.
- Bank account details
- Links to data from filed statutory accounts
- Etc, etc

These profiles will need to be established from the outset for each taxable person – but this process should draw to the maximum extent possible on the existing data in the hands of national tax administrations.

TABLE 2 - TRANSACTION FLOW FOR INTRA-COMMUNITY B2B TRANSACTIONS SETTLED BY ELECTRONIC TRANSFER

1. Seller draws up invoice, respecting the following specification,
 - Unique sequence number and date for identifying transaction.
 - Name and address of supplier plus VAT registration
 - Name and address of customer plus VAT registration details.
 - Place of delivery (if not as above).
 - Details of goods or services supplied.
 - VAT computation at appropriate VAT rate to be charged to the buyer for the transaction based on the status of the buyer (business or non-business, Member State of delivery or consumption, etc) and the rate applicable for the specific goods or services in the transaction through an automatic look-up facility via the server network.
 - Settlement date.
 - Bank details for settlement (for tax settlement assumed that VAT registration details are sufficient in most cases to trigger payment to correct account of entitled tax administration).
 - Other details – as defined in invoicing obligations.
2. Invoice transmitted to buyer (and captured by RTvat system).
3. Buyer validates invoice – verifies delivery of goods or services, price, tax computation, etc
4. Buyer schedules payment and authorises his bank to make settlement in accordance with invoice data
5. Buyer's bank debits buyer's account with full amount and credits the VAT server network.
6. Server network pays net proceeds to seller's bank.
7. Server pays VAT to the appropriate Tax Authority – normally on B2B trades with electronic settlement, this is the buyer's Tax Authority.
8. Seller's bank credits net amount to the seller's account
9. Buyer's initiates procedure for claiming refund (where entitled)⁹.
10. Tax authority processes refund request and pays appropriate amount to buyer's bank within agreed limits – this process can be virtually automated when fraud checking tool is functioning correctly.
11. Seller receives confirmation that the VAT liability on the transaction has been discharged.

TABLE 3 - TRANSACTION FLOW WHERE BUYER PROVIDES CARD DATA TO SELLER EITHER AT POS OR BY WEB-BASED INTERFACE OR BY ARRANGED DIRECT DEBIT AGREEMENT.

1. Buyer initiates an order to purchase goods or services.
2. Seller prepares invoice (as per previous specification), sends invoice to customer and instructs server system to debit the buyer's card (link between system and card processor has to be clarified).
3. Card issuing bank is contacted with details of the proposed transaction, gives approval (blocking funds if necessary) and informs the seller by generating an authorization flag.
4. The seller can now release the goods or perform the service, if that is part of the requirement.
5. The issuing bank debits the account of buyer and transfers the funds, less its fees, to server system.
6. Server system makes payment to the seller's bank for credit to the seller's account of the net proceeds.
7. Balance of buyer's payment (tax amount) is transferred at the same time to the appropriate tax authority.
8. Buyer makes refund request and the tax authority checks available data (including fraud checking process) to see that the buyer is entitled to this.
9. Tax authority issues refund to buyer's bank account within agreed time limits.
10. The seller receives confirmation that the VAT has been discharged.

⁹ Normally this will be on the basis of invoice details – but if the invoice details have already been captured by the system when the transaction was initiated then this could be used to expedite or automate payment.

TABLE 4 - TRANSACTION FLOW FOR DOMESTIC B2C TRANSACTIONS WHERE BUYER PAYS IN FULL FOR GOODS OR SERVICES AT THE PLACE AND TIME WHERE DELIVERED.

1. Buyer initiates process of purchasing goods or services.
2. Tax inclusive price fixed by seller (applicable VAT rate is known and captured but retail buyer will not require a tax invoice¹⁰) and payment procedure is commenced to allow buyer to complete purchase.
3. Where payment is by electronic means, customer's bank is contacted with details of the proposed transaction, gives approval (blocking funds if necessary) and informs the seller by generating an authorization flag.
4. The seller can now release the goods or perform the service, as required.
5. The issuing bank debits the account of buyer and transfers the funds, less its fees, to server system.
6. Server system makes payment to the seller's bank for credit to the seller's account after collecting the tax on the transaction (on the basis of data input by supplier at the point where the transaction is initiated).
7. Balance of buyer's payment (tax amount) is transferred at the same time to the appropriate tax authority.
8. Where buyer makes payment by cash or cheque, this will have to be lodged by seller who, in these instances only, bears the responsibility to ensure correct payment of tax at time of lodgement¹¹.

¹⁰ Even though no invoice is normally required for B2C retail sale, VAT details are normally available at this point lest a customer asks for a tax invoice.

¹¹ Fraud tools will have functionality to rapidly identify incorrect treatment or misrouting of cash and cheque receipts. Suppression of tax receipts in this manner can be contained but is unlikely to be eradicated completely.