

eCommerce Identification

Mobile TAN

The mobile phone replaces the TAN list

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Abstract:

In Germany most bank transactions are released with a so-called TAN (Transaction Number). Because of the fact that the issuance and administration of the TANs are normally the most expensive part of a transaction, the financial industry searches a cheap alternative for a long time. It has to be considered that a high security standard is applied for bank transactions which also have been fulfilled absolutely by new methods.

Solution:

The **Mobile TAN**, an innovation from NOVOSEC AG, uses the processes which are well known by the customer and strongly reduces the online banking costs at the same time. Before processing the customer's order, the bank sends a TAN directly via SMS to the customer's mobile phone. By the usage of a standard mobile phone bank transactions can be conducted cheaper, faster and more convenient than ever.

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Basics

Nearly all German banks are offering online banking for conducting payments and brokerage transactions to their private customers. The fast success is based on the fact that both private customers and banks have advantages using these applications. Private customers can conduct their bank transactions conveniently at home. The transactions are submitted electronically. This implicates that banks can save payment and brokerage transactions' expenses (handling expenses, personnel costs). Therefore banks are anxious to process as many transactions as possible online. A cheap alternative to the currently used PIN/TAN method is searched because of the expensive administration for a long time. Other methods like HBCI couldn't be established area wide because of the enormous rollout costs.

Observing the procedure of an online banking transaction the following processes can be identified:

- a) A customer has to be identified by the bank before he can get access to his account
→ IDENTIFICATION
- b) Before conducting a specific business transaction (money transfer, brokerage, etc.) the bank verifies the customer's solvency
→ AUTHORISATION
- c) The assignment of a specific business transaction has to be explicitly confirmed by the customer
→ TRANSACTION RELEASE

Banks are issuing so-called TAN lists to their customers for transaction release purposes. A TAN list is a sheet of paper which contains several - normally between fifty and one hundred - 6-digit numbers. Every number is a TAN (transaction number). Each TAN replaces a signature for one customer order. Before a customer can submit

orders online to the bank, the bank must send him a TAN list.

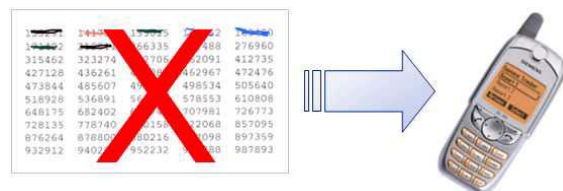
A TAN list is similar to several signatures in blank. Therefore it has to be ensured that only persons who are authorised to dispose of the underlying account get access to these TAN lists. It is characteristic for a TAN that it can be used only once in order to release a transaction. In case a TAN was used, the customer crosses out the TAN from his list. For the next transaction he has to use one of the remaining numbers.

The usage of TAN lists has been established mainly because of the ease of use for the end customers. On the other hand there are admittedly high costs for the printing and the administration of the TAN lists. This also illustrates the high duty of care which the bank imposes to its customers. In practise this leads to the result that the TAN list is locked either in the office or in the desk drawer at home.

Mobile TAN

Because of the high market penetration of mobile phones there is the opportunity to use the mobile phones as identification and/or transaction release mechanism¹.

The **Mobile TAN**, an innovation from NOVOSEC, uses this existing infrastructure. During the online banking the bank sends the TAN in order to release a transaction to the customer via SMS to his mobile phone.

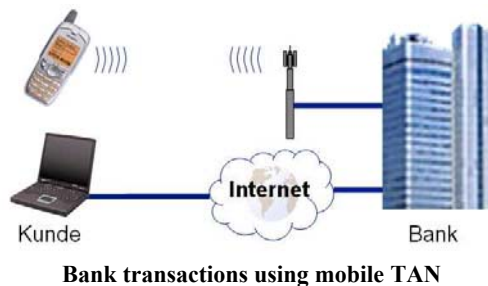


Mobile phone as replacement for the TAN list

Analogue to the hitherto established PIN/TAN method the customer fills e.g. at

¹ Only the usage of a mobile TAN as transaction release mechanism is considered.

an online money transfer the well known web form. Instead of entering a TAN, a link is provided which the customer can use to request a **Mobile TAN** directly to his mobile phone. The bank generates a transaction based TAN which is valid only for this specific money transfer order and sends it to the customer's mobile phone via SMS. The customer enters the received TAN into the web form and therewith releases the transaction.



Thus in order to confirm a transaction both the PIN and the **Mobile TAN** which is received via SMS are transferred via internet to the bank.

Convenient and secure

Using the **Mobile TAN** a location independent conduction of transactions is possible without the bothersome carrying of TAN lists. In contrast to the TAN lists, which the customers are only reluctantly carrying in their purses, the customer normally takes his mobile phone around with him.

The method is easy to understand and very convenient for the customer. Neither it is necessary to install additional hardware nor software. Because of this, the **Mobile TAN** can really be used independent from the location.

Whether staying at home, in the office or on a business trip, beside his mobile phone, the customer only needs his banking PIN and an internet access.

Save expenses because of the Mobile TAN

The most important cost factors for the PIN/TAN methods are the printing, the delivery and the management of the TAN lists. The **Mobile TAN** is sent via SMS and not in printed form to the customer. Beside his well tried PC, the customer only uses his mobile phone. Therefore the bank doesn't need a rollout for additional hardware/software. It can be assumed that significantly more paper based transactions are substituted by online transactions since the independency from the location can be assured. This will save expenses in a significant way.

Trend factor Mobile TAN

One factor of the **Mobile TAN** which shouldn't be underestimated is the specific customer clientele to which online banking with Mobile TAN is addressed:

People who are often away on business (the income of this group is significantly more than the average) and the younger generation which has grown up with mobile phones and SMS. Both segments are normally in the strategic focus of online banks.