Digital Checking Payment Systems

Digital checking payment systems (DCPS) are payment systems where account entry information are checked electronically. This procedure can be applied to a wide range of payment systems as bank transfer, direct debit, debit cards, credit cards and checks. All required steps from the initiating to the closing of a payment can be done electronically. Main advantages of DCPS are a high level of speed, of security and of processing efficiencies due to the utilization of existing advantages of paper-based payment systems in combination with advantages of electronic usage in general.

Advantages

High Level of Transaction Speed

The transaction speed of a payment can be very fast using DCPS. The main reason is that there is no need to go *physically* the bank or saving bank to initiate a payment transaction. Only a electronical device with an accordant software or app is needed.

Verification of content and validity is done *automatically*. No person is needed for that. So there is another speed-up for the whole payment transaction.

High Level of Processing Effiency

There is a high level of processing effiency due to a high level of automatication. A high level of automatication caused higher speed and lower cost in comparison to mature non-electronical payment systems.

Legal Status

Many DCPS are legally treat as mature non-electronical payment systems. eCheck for exmaple is used by the United States Treasury to make high-value payments over the public Internet.[1]

Acceptance/Usage

eBay for example accepts some DCPS like PayPal, ProPay[2], Skrill [3], Paymate [4] and Bill Me Later.[5]

Examples

At all these examples required payment checkings are done electronically.

eCheck

An eCheck is an electronical version of a paper check.[6] The process of an eCheck includes:

1. Drawer writes the eCheck on an electronical device.
2. Payee receives credit.
3. Payee's bank clears eCheck to the paying bank.
4. Paying bank charges account of drawer.

PayPal

Paypal is an DCPS where e-mail-adresses are used for the electronical check.

PayPal is typically used for Micropayments.

PayPal is also an eCheck proceeding company.[7]

ProPay

ProPay is an DCPS where credit and debit card data is used for the electronical check.

Skrill

Skrill is another DCPS where e-mail-adresses are used for the electronical check. It is some kind of a prepaid payment system. So you can upload and withdraw your funds to/from your account.

Paymate

Paymate is another DCPS where credit data is used for the electronical check.

Bill me later

Bill Me Later is a DCPS using birthday and social security number data for the electronical check.[8] It is a subsidiary of PayPal.

Security

DCPS uses a wide range of security techniques as authentication, public key cryptography, digital signatures, certificate authorities and encryption. Often, DCPS providers uses state of the art security techniques and combines some security techniques. Nevertheless there are no absolutely secure payment method.

Authentication

Authentication is defined as establishing the identity of one party to another.

Public Key Cryptography

Public Key Cryptography is a security technique using a public cryptography key for sending messages, but a secret key for read them.[9]

Digital Signatures

A Digital Signature is a mathematical based security technique. This technique allows to identify the creator of the signature and/or the document which was signed by the recipient. One kind of Digital signatures are Public Key Cryptographic Digital Signatures.

Certificate authorities

A Security Certificate in IT environment is a third-party verification of a website's identity in order to establish trust.

Encryption

Encryption is the conversion of data in such way that it cannot be read or understood without knowing how the data is encoded.

Further Links

- Classic Payment Options
- Electronic payment options

References

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