Digital document processing opens new opportunities to fight counterfeiting and tampering

by Dr. Martin Kutter, president of AlpVision

Today's personal scanning and printing/copying facilities have boosted the production of counterfeit and tampered with banking documents. Bankers must cope with this threat and explore new technologies to protect their business.

According to a recent survey of the American Bank Association, banking institutions have taken measures to counter the increase of fraudulent attempts. In 2003 for US banks, these measures have for example reduced the check fraud losses to $677 millions, 3% below the 2001 losses.

However check fraud is only one source of losses, others include fictitious document fraud, counterfeiting of corporate checks and other negotiable instruments, as well as false identification documents created with the use of computer technology.

While it is difficult to estimate the direct losses in terms of money value, the cost of establishing anti fraud processes and implementing anti-fraud technologies has also to be taken into account.

Another observation shows that banks which have taken efficient anti-fraud measures have decreased their losses, which are carried over to less organised banks or financial organisations, according to private and confidential discussions with bankers. Towards a paperless industry, but with paper still there for many decades.

Paper to stay for decades

Even if online banking facilities push towards a paperless bank, one can predict that the paper document manipulation and processing will still be there for a long time. Other domains, such as the publishing industry, still see an increase of printed publications despite the online and electronics' media.

Reengineering of the value paper processing has been recently set in motion, such as the "Check Clearing for the 21st Century" US initiative, which allows banks to transmit electronics check images instead of physically transferring paper checks.

Interestingly, the digital processing of the paper checks has contributed to the effective fighting of forged and falsified checks. This could explain why the 2003 dollar losses due to check fraud has not increased, despite the global increase of fraudulent attempts by more than 27% in 2003 compared to 2001 survey. This fraud is expected to grow even more in the future.

A fundamental point is the ability of an anti-fraud technology to be machine readable, at a speed compatible with the huge number of processed documents every day. Another point is the ability to integrate into existing banking document processing systems, as changes are very costly.

The Cryptoglyph technology solution

Amongst many security printing techniques, one can mention a revolutionary technology, which combines the invisible printing of large number of very small dots and a cryptographic secret key (128 bits). These dots are invisible to the naked eye, and are not identifiable with magnifying equipment because they are hidden in the imperfections of the paper.

Document specific information is encrypted and hidden in these dots in the whole surface of the printed document, making each document as unique as a fingerprint. This technology has been invented by AlpVision and is commercialised under the name of Cryptoglyph (Crypto = encryption, glyph = marks). Cryptoglyph is the only technology providing an invisible marking with visible ink using standard printers.

Track & trace and anti counterfeiting

Fighting against fraud, including internal employee's misbehavior or simple processing mistakes requires the ability to track and trace the document during its entire lifecycle.

If barcodes are often used, their visibility offers a poor protection against removal. Here again an invisible technology, such as Cryptoglyph, can be used to check the matching of a document critical information (amount, contract/account number, etc.) with the encrypted and invisible information hidden in the printed micro dots. Therefore functionalities, such as integrity checking, document tracking and authenticity verification, can be performed with the same technology.

Security trend

As the fraud and anti-fraud race is a never ending process with a multi billion dollars jackpot, there is not a single solution that will solve the problem forever. Expertise shows that a combination of various solutions with permanent updating is the best practice to reduce and control fraud losses. Digital security printing experts are coming up with solutions to secure and verify printed documents everyday. Such solutions for example include the digital verification of paper watermarks, as well as document authentication using mobile phones.

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