



MOBILE-ID

Anytime, Anywhere

QRYPTO

Document Security Re-imagined



QRYPTO technology has been enabling organizations to secure documents by incorporating a digitally signed secure code providing instant de-centralized validation by third-parties across geographies.

The Problem



Documents issued by an organization are difficult to validate outside the organization

Typical Scenario



An account statement issued by a bank needs to be validated by a third-parties

The Solution



Integrate QR Generator to automatically place a digitally signed secure code on documents issued by your organization

Verification



A third-parties can instantly validate by scanning the secure code with the Document Validator App issued by your organization

WHY DO THIRD-PARTIES NEED TO VALIDATE DOCUMENTS?

Every business transaction needs to be able to trust incoming information in order to process and produce the desired outcome.

Often the incoming information is in the form of a document which the processor needs to be able to validate explicitly or trust implicitly.

With easy access to computing resources - it has become trivial to create or tamper these documents. This has fuelled an epidemic of fraud across industries leading to the necessity of being able to validate incoming documents on demand.

WHY NOT USE SIGNED PDFs?

In practise digitally signed PDFs fail to prevent document fraud because:

- Validation process for such documents is so cumbersome that most people face challenges just to validate a digitally signed PDF, more so on tablets and mobile devices.
- Does not work for printed or scanned copies.
- Not suitable for automated processing: some processes like modern cheque clearing systems work on images where such signatures are lost.

WHY IS IT DIFFICULT FOR THIRD-PATIES TO VALIDATE THESE DOCUMENTS?

In most cases the truth about the authenticity of information resides with the databases of the document issuing organization.

Good information security requires that these databases are heavily protected and fortified from any unauthorized access. This need for security and privacy prevents the document issuing organization from providing convenient access to their databases.

So the only work around is to have manual verification processes or to build custom systems to enable controlled access for verification. Both approaches are expensive & tedious for all parties and increase the risk of exposing sensitive information to unauthorized persons.

WHY IS QRYPTO SECURE?

All QRYPTO secure codes are digitally signed with the issuing organization's private key. The App uses the public key to instantly validate the information without the need to connect to internal databases.

Since no one else has the private key, no other entity can generate secure codes on behalf of the issuing organization. QRYPTO offers digital signatures equivalent to up to 3072 bit RSA making it impervious to brute force attacks.

IS THE QRYPTO SECURE CODE JUST A SIMPLE QR CODES?

Just like any other data storage medium, QR Codes themselves are not secure. The QRYPTO Secure code enhances the standard QR code primarily in two ways.

- Security: A cryptographically secure digital signature.
- Compression: QR Multistage Pipeline Compression (QMPC) is able to compress a lot of textual data into a small QR code image.

A QRYPTO Secure Code is a highly compressed secure QR code which cannot be tampered.

QRYPTO SHOULD BE USED FOR WHAT KIND OF DOCUMENTS?

QRYPTO can be used for any kind of document of value which leaves the organization perimeter.

This includes: invoices, receipts, certificates, cheques, payslips, statements, HR documents, etc.

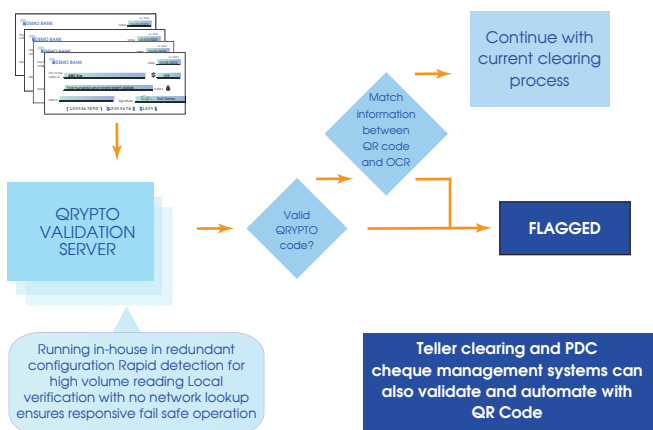
It can be integrated for both the high volume system generated documents as well as ad-hoc documents issued by authorized personnel.

Generation

Validation



AUTOMATED INWARD CLEANING PROCESS



ACCOUNT STATEMENTS

Bank account statements are used for loan applications, proof of net worth or financial position, address and so on. Usually third-parties verification of account statements requires going back to the issuing bank for privacy and regulatory reasons.

Placing the QRYPTO code on the statement enables instant trusted validation on demand without the need to sacrifice privacy or expose internal bank databases.

Date	Description	Debit	Credit	Balance
2/2/2017	ATM CREDIT BRANCH ID:0404768 REF:1234567		2,000.00	26,904.44
5/2/2017	BANK TRF TO:0767987656; BIK REF:3207656	2,500.00		24,404.44
8/2/2017	TR REF NUM:0000046789; BIK K:IN000000;00	3,000.00		21,404.44
8/2/2017	TR CHARGE:000005467898	10		21,394.44
10/2/2017	TR REF NUM:0000046784; BIKET S:IN0400000;00	2,400.00		18,994.44
10/2/2017	TR CHARGE:0000046784	10		18,984.44
15/2/2017	ATM WITHDRAWAL CITY BRANCH ID:0400787 REF:8976541	1,100.00		17,884.44
16/2/2017	BANK TRF TO:767987721; BIK REF:5438444	1,200.00		16,684.44
20/2/2017	PDC SUPERMARKET REF:10349	104.40		16,580.04
30/2/2017	PREPAID TOPUP	60.00		16,520.04
20/2/2017	SALARY REF:ABC DEMO GDP		15,000.00	31,520.04
21/2/2017	CREDIT CARD PAYMENT REF:888 999 776 111	1,524.22		31,995.82
	CLOSING BALANCE			31,995.82

QRYPTO technology highlights:

- Ultra Secure: PKI based, equivalent to up to 3072 bit.
- Compression: QRYPTO Multi-Stage Pipeline Compression.
- Privacy: QR + Algorithm + Public Key provides access to data.

So no need to share database, securely share via QR only
Extreme Security & Privacy with a small compressed QR.

CHEQUES

With easy access to cheque printing technology, fraudsters can create cheques or tamper with cheque details that can slip through existing detection mechanisms. QRYPTO's Secure QR code can capture all the details of the cheque and make it impossible for the fraudster to tamper the information.

Using the QRYPTO code drastically reduces cheque fraud

- Clearing bank can instantly validate cheque stationery authenticity and also automate processing.
- With the App, any one can also detect fake cheque stationery including for Post Dated Cheques.

Cheque # security signed & sealed inside a QRYPTO Code.

QRYPTO code can only be generated by Bank or their authorized customers.

Now no fraudster can change any key cheque detail.

The name of signatories can also be embedded inside the QRYPTO code for audit and reporting purposes