Redvers Consulting Ltd

Redvers COBOL Signature

The Redvers COBOL Signature software package combines asymmetric encryption (PKI) with digital signature technology in the form of RSA Laboratories PKCS #1, Digital Signature Standard (DSA) and Elliptic Curve Digital Signature Algorithm (ECDSA) standards.

Main features:

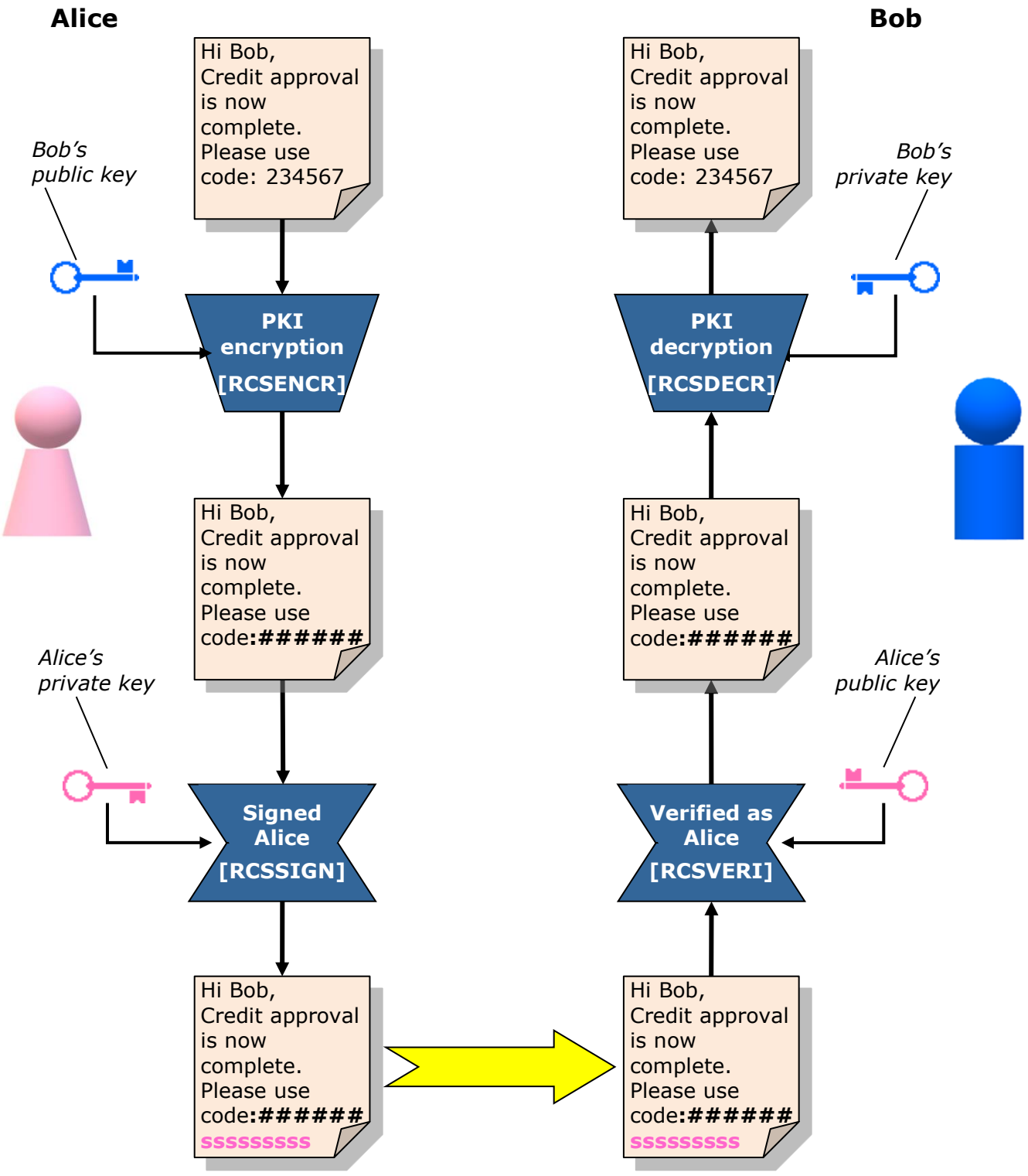
- All code is 100% pure COBOL
- Runs on any COBOL platform
- Supports public/private keys up to 4096 bits, passed in hex or Base64
- Supports RSA, DSA and ECDSA (elliptic curve) signatures
- Includes SHA-1 and SHA-2 224, 256, 384 and 512 bit hashing
- Distributed in COBOL source code
- Efficient, professional and fully scalable
- Supports calls from batch or online (eg: CICS)
- **Free 30 day trial available**

The required security level for PKI cryptography and digital signature generation/verification, depends on the length of public/private keys as well as the choice of SHA-1 or SHA-2 hashing algorithms. Key sizes and hash digest lengths are specified by the calling application to ensure the correct security level is maintained.

Digital signatures provide assurance of the sender's identity and confirmation that the data received has not been altered by unauthorized activity.

How it Works

The diagram below shows how confidential information may be encrypted, signed, sent, verified and decrypted using **Redvers COBOL Signature** software.



The Redvers Signature Software runs standard asymmetric encryption and digital signature algorithms, so that ciphertext and signatures can be decrypted and verified by outside institutions.

Technical Information

PKI encryption and associated OAEP padding logic complies with algorithms provided in the RSA Laboratories PKCS #1 v2.2: RSA Cryptography Standard. Specifically, RSAEP/RSADP are used for encryption/decryption and RSA-OAEP with MGF1 is used in padding and mask generation.

RSA signatures are also created and verified as specified in RSA's PKCS #1 v2.2: RSA Cryptography Standard. Signature logic currently uses RSAES-PKCS1-v1_5 signature scheme, although RSASSA-PSS can be added on request. These signature schemes are particularly suited to JSON Web Token (JWT) transactions.

DSA signatures are created and verified as specified in NIST FIPS PUB 186-4 Digital Signature Standard. All L/N bit lengths are supported: 1024/160, 2048/224, 2048/256 and 3072/256. DSA is similar to the EIGamal signature scheme.

ECDSA signatures conform to ANSI ANS X9.62-2005 Public Key Cryptography for the Financial Services Industry - The Elliptic Curve Digital Signature Algorithm (ECDSA). All prime field curves are supported. Binary field curves can be added on request.

Redvers COBOL Signature 2.3 programs can be run on EBCDIC or ASCII character encoded platforms, using big or little endian binary formats. Data exchange between subroutines uses a common communication block containing left justified, space filled parameters in hexadecimal or Base64 formats. All subroutine storage areas containing confidential information are initialized before control is returned to the calling application.

The Product Package

The **Redvers COBOL Signature** software package consists of:

- A sample COBOL calling application program (**RCSSAMP**).
- Four additional application programs to encrypt (**RCSENCR**), decrypt (**RCSDECR**), sign (**RCSSIGN**) and verify (**RCSVERI**).
- Two Redvers Consulting subroutines (**RCSCALC** and **RCSHASH**).

All these programs should be copied to the standard source code library and compiled. **RCSSAMP** will need to be compiled and linked last, before starting the trial.

Included within the software is the Redvers calculator subroutine **RCSCALC** and hashing subroutine **RCSHASH**. **RCSCALC** and **RCSHASH** may be used by clients for other technical application requirements without charge.

A perpetual license for the **Redvers COBOL Signature** software can be provided for a one-off fee. Alternatively, the software can be leased on an annual basis for 20% of the perpetual license cost (minimum two years).

All licenses include:

- Product source code
- Sample COBOL calling programs
- User Guide
- Corporate level software license
- Money back guarantee
- Product upgrades and support via email*

Additional options:

- 24 x 7 telephone hotline support
- Software escrow agreement with Software Escrow Solutions

Full pricing details can be found at:
https://www.redversconsulting.com/cobol_signature_pricing.php

About Redvers Consulting

Redvers Consulting provide niche software products for the integration, modernization and security of COBOL applications. Our clients are primarily large financial institutions in Europe and North America, although we also have customers in many other business and geographical areas.

Our ability to deliver software in COBOL source code form, gives customers reliable, efficient and perfectly integrated solutions to business needs. Source code distribution also means our software will run on all hardware platforms and operating systems: *EBCDIC, ASCII, big endian or little endian*.

Redvers Consulting have received many business awards over the years, including winning the **Best use of Technology** category in the Thames Gateway Business Awards. We are also business partners with **IBM**, **Micro Focus** and **Fujitsu**.

Our client list includes:

Agora (FR)
ANZ (AUS)
BAE Systems (USA)
Canada Life Assurance (UK)
Deutsche Bank (USA)
Deutsche Rentenversicherung Bund (DE)
FirstBank (USA)
Fiserv (USA)
GMAC Insurance (USA)
Hanesbrands (USA)
John Deere (USA)
LBS / Finanz Informatik (DE)
J P Morgan (USA)
Oppenheimer (USA)
Pacific Gas (USA)
Network Rail (UK)
R+V Allgemeine Versicherung (DE)
Sasktel (CAN)
SEB (DE)
Standard Life Assurance (UK)
Suncorp (AUS)
SunGard / FIS (USA)
WorkSafeBC (CAN)
Zurich Insurance (UK & CHE)

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