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Chaum Blind Signature Scheme

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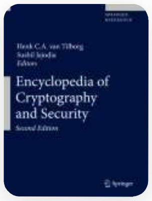

Encyclopedia of Cryptography and Security

Gerrit Bleumer

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Related Concepts

Blind Signature

Definition

The Chaum Blind Signature Scheme [3, 4], invented by David Chaum, was the first blind signature scheme proposed in the public literature.

Theory

The Chaum Blind Signature Scheme [3, 4] is based on the RSA signature scheme using the fact that RSA is an *automorphism* on $\mathbb{Z}_n{}^*$, the multiplicative group of units modulo an RSA integer $n = pq$, where *n* is the public modulus and *p*,*q* are safe RSA prime numbers. The tuple (n, e) is the public verifying key, where *e* is a prime between 2^{16} and $\phi(n) = (p-1)(q-1)$, and the tuple (p, q, d) is the corresponding private key of the signer, where $d = \mathrm{e}^{-1}\mathrm{mod}\phi(n)$ is the signing exponent. The signer computes signatures by raising the hash value $H(m)$ of a given message *m* to the *d*th power modulo *n*, where $H(\cdot)$ is a publicly known collision resistant hash function. A recipient verifies a signature *s* for message *m*with respect...

Recommended Reading

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