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DEFINITION

# Secure Electronic Transaction (SET)

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Secure Electronic Transaction (SET) is a system for ensuring the security of financial transactions on the Internet. It was supported initially by Mastercard, Visa, Microsoft, Netscape, and others. With SET, a user is given an *electronic wallet* ([digital certificate](#)) and a transaction is conducted and verified using a combination of digital certificates and [digital signatures](#) among the purchaser, a merchant, and the purchaser's bank in

a way that ensures privacy and confidentiality. SET makes use of Netscape's Secure Sockets Layer ([SSL](#)), Microsoft's Secure Transaction Technology (STT), and Terisa System's Secure Hypertext Transfer Protocol ([S-HTTP](#)). SET uses some but not all aspects of a public key infrastructure ([PKI](#)).

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Here's how SET works:

Assume that a customer has a SET-enabled browser such as Netscape or Microsoft's Internet Explorer and that the transaction provider (bank, store, etc.) has a SET-enabled server.

1. The customer opens a Mastercard or Visa bank account. Any issuer of a credit card is some kind of bank.
2. The customer receives a **digital certificate**. This electronic file functions as a credit card for online purchases or other transactions. It includes a **public key** with an expiration date. It has been through a **digital switch** to the bank to ensure its validity.
3. Third-party merchants also receive certificates from the bank. These certificates include the merchant's public key and the bank's public key.

4. The customer places an order over a Web page, by phone, or some other means.
5. The customer's browser receives and confirms from the merchant's certificate that the merchant is valid.
6. The browser sends the order information. This message is encrypted with the merchant's public key, the payment information, which is encrypted with the bank's public key (which can't be read by the merchant), and information that ensures the payment can only be used with this particular order.
7. The merchant verifies the customer by checking the digital signature on the customer's certificate. This may be done by referring the certificate to the bank or to a third-party verifier.
8. The merchant sends the order message along to the bank. This includes the bank's public key, the customer's payment information (which the merchant can't decode), and the merchant's certificate.
9. The bank verifies the merchant and the message. The bank uses the digital signature on the certificate with the message and verifies the payment part of the message.
10. The bank digitally signs and sends authorization to the merchant, who can then fill the order.

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## ➤ Next Steps

Web fraud detection systems can help to protect electronic payments. This Buying Decisions series offers an [introduction to Web fraud detection systems](#), examines four scenarios where [Web fraud detection is used in an enterprise](#), as well as [several criteria for comparing](#) and [purchasing Web fraud detection products](#).

## ➤ Continue Reading About Secure Electronic Transaction (SET)


- SearchCIO provides "Best Web Links" to information about SET.
- Printech is a major provider of services based on SET.
- SearchSecurity provides "Best Web Links" to more about "Securing Transactions and E-Commerce."

## Related Terms


### Governance, Risk and Compliance (GRC)

Governance, Risk and Compliance (GRC) is a combined area of focus within an organization that developed because of ... [See complete definition](#) 

## National Automated Clearing House Association (NACHA)

The National Automated Clearing House Association (NACHA) is a not-for-profit trade association that develops operating rules and... [See complete definition](#) 

## RASHport (Routing and Special Handling)

RASHport, also called RASH (Routing and Special Handling), is a digital communications protocol that allows customers of the ... [See complete definition](#) 

## ➤ Dig Deeper on Financial transaction protocols and security

ALL



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