

# Payment security



ALEX XU

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A few weeks ago, I posted the high-level design for the payment system. Today, I'll continue the discussion and focus on payment security.

The table below summarizes techniques that are commonly used in payment security.

Problem	Solution
Request/response eavesdropping	Use HTTPS
Data tampering	Enforce encryption and integrity monitoring
Man-in-the-middle attack	Use SSL and authentication certificates
Data loss	Database replication across multiple regions and take snapshot of data
Distributed denial-of-service attack (DDoS)	Rate limiting and firewall
Card theft	Tokenization. Instead of using real card numbers, tokens are stored and used for payment
PCI compliance	PCI DSS is an information security standard for organizations that handle branded credit cards
Fraud	Address verification, card verification value (CVV), user behavior analysis, etc.

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