

Kerckhoffs's principle

Only keep hidden the key.
(e.g., make the design public)

Principle of sufficient keys

The number of possible keys
must be large.
(e.g., avoid brute force)

Principle of (key) separation

Use different keys for different
contexts, compartmentalize.
(e.g., minimise the damage of a leak)

Principle of simplicity

Keep everything simple.
(e.g., unnecessary complexity brings
in risks)

Principle of diversity

Use different types of ... e.g.,
cryptographic algorithms.
(e.g., avoid same attacks against all)

Security by default

Keep default configuration as
secure as possible.
(e.g., deny access by default)

Principle of minimal trust

Minimise the number of trusted
entities, don't trust easily.
(e.g., do not say your secrets to
anyone)

Principle of the weakest link

A system cannot be more
secure than its weakest
component (link).
(e.g., secure all components)

Principle of least privilege

Grant the exact privileges
required to perform the job.
(e.g., do not grant less or more
privileges)

Security by design

Build in security from start.
(e.g., integrate security in all design
and development stages)

Principle of modularization

Keep things modular.
(e.g., easily change one component
with another)

Defence in depth

Use diverse security strategies
at different layers.
(e.g., use physical and technological
security)

Ethics!



Security through obscurity (?)

Oblivious Transfer, Obfuscation, Covert Channels, ... ; Kleptography; Standardisation ...