

2 The CIA triad and managing risk – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)		
CIA triad	中央情报三要素	_____	_____	_____
confidentiality	保密性	_____	_____	_____
integrity	完整性	_____	_____	_____
availability	可用性	_____	_____	_____
risk	风险	_____	_____	_____
threat	威胁	_____	_____	_____
vulnerability	漏洞	_____	_____	_____
asset	资产	_____	_____	_____
defense in depth	纵深防御	_____	_____	_____

Recall

- You keep some things private, trust that a document is unchanged, and expect a service to work when needed.
- You lock your door (a physical control) and follow rules like “do not share your PIN.”
- You know some risks are worth avoiding and some you just accept.

New ideas

Read these first. Each idea has a short worked example. Then do the Practice below.

■ 1 The CIA triad

Security has three goals - the **CIA triad** 中央情报三要素: **confidentiality** 保密性 (only the right people read it), **integrity** 完整性 (it is unaltered), and **availability** 可用性 (it works when needed).

Worked example. Encryption protects confidentiality; a file hash checks integrity; a backup protects availability.

■ 2 Risk and responses

A **risk** 风险 appears when a **threat** 威胁 exploits a **vulnerability** 漏洞 to harm an **asset** 资产. You can avoid, transfer, mitigate, or accept it.

Worked example. Buying insurance against a cyber loss is transferring the risk to the insurer.

■ 3 Types of control

Controls are grouped by **type** (physical, technical, managerial) and by **function** (preventative, detective, corrective). Layering many is **defense in depth** 纵深防御.

Worked example. A camera is physical by type and detective by function.

Watch out: Do not mix up the two groupings. Type = where it works; function = what it does. A camera can be classified both ways.

Practice

2.1 State the three goals of the CIA triad. [3]

2.2 Which CIA goal does encryption mainly protect? [1]

2.3 Define a risk in terms of a threat, a vulnerability, and an asset. [2]

2.4 Name the four ways to respond to a risk. [2]

2.5 Classify a door lock and a CCTV camera by function.

[2]