

ACCOUNT PROTECTION ANALYSIS

Jim

TYPES OF ACCOUNT PROTECTION

- ◉ **Knowledge factors**
- ◉ **Ownership factors**
- ◉ **Inherence factors**

KNOWLEDGE FACTORS PROTECTION

- ◉ **Password**
- ◉ **Pass phrase**
- ◉ **Personal identification number (PIN)**
- ◉ **Challenge response (the user must answer a question)**

OWNERSHIP FACTORS PROTECTION

- ◉ **ID card**
- ◉ **Security token**
- ◉ **Software token**
- ◉ **Phone**
- ◉ **Cell phone**

INHERENCE FACTORS PROTECTION

- ◉ **Fingerprint**
- ◉ **Retinal pattern**
- ◉ **DNA**
- ◉ **Signature**
- ◉ **Face**
- ◉ **Voice**
- ◉ **Unique bio-electric signals, or other biometric identifier).**

WHAT'S IS THE MOST POPULAR
FACTOR?

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Ownership factors Protection

PROBLEM OF KNOWLEDGE FACTORS PROTECTION

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Key Logger

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Keyboard Protector
Key Logger

PROBLEM OF OWNERSHIP FACTORS PROTECTION

- ▶ **ID card—Fake Card**

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- ▶ ID card—**Fake Card**
- ▶ Security token—**High Security Protection**

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- ▶ Software token—**Export Token**
- ▶ Phone—**Fake Phone Number**

PROBLEM OF OWNERSHIP FACTORS PROTECTION

- ▶ ID card—**Fake Card**
- ▶ Security token—**High Security Protection**
- ▶ Software token—**Export Token**
- ▶ Phone—**Fake Phone Number**
- ▶ Cell phone—**Fake Phone Number and Phone ID**

PROBLEM OF OWNERSHIP FACTORS PROTECTION

- ▶ ID card—**Fake Card**
- ▶ Security token—**High Security Protection**
- ▶ Software token—**Export Token**
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- ▶ Cell phone—**Fake Phone Number and Phone ID**

TYPES OF SECURITY TOKEN

- ◉ **Static Password**
- ◉ **Synchronous Dynamic Password**
- ◉ **Asynchronous Password**
- ◉ **Challenge Response**

SYNCHRONOUS DYNAMIC PASSWORD TOKENS

- ◉ *Digital signature*

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- ◉ **Disconnected tokens**
- ◉ **Connected tokens**
- ◉ **Smart Card**
- ◉ **Contactless tokens**
- ◉ **Bluetooth tokens**

SYNCHRONOUS DYNAMIC PASSWORD TOKENS

- ◉ *Digital signature*
- ◉ **Disconnected tokens**
- ◉ **Connected tokens**
- ◉ **Smart Card**
- ◉ **Contactless tokens**
- ◉ **Bluetooth tokens**
- ◉ **Single sign-on software tokens**

DESIGN OF SYNCHRONOUS DYNAMIC PASSWORD TOKENS

○ Fire and Forget

- For Time based or event based authentication. No Input data confirm/check function.

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◉ Auto Response

- For data confirm/check function.

AUTO RESPONSE FEATURE

- ◉ Most connected Token designed as Auto Response Type.
- ◉ One PIN Code Protection
- ◉ Digital signature
- ◉ Support data confirm/check function

HOW TO CHOICE GOOD TOKEN

⦿ Auto Response Token

- Do not use fixed input data format
- Add Trap for protection
- Add Dynamic PIN for system Level

⦿ Fire and Forget Token

- ⦿ Unique ID / No entry for attack path / Mixed Mode with Auto Response and Fire and Forget.