Personal Data Protection and Security Measures

Data and Security Team

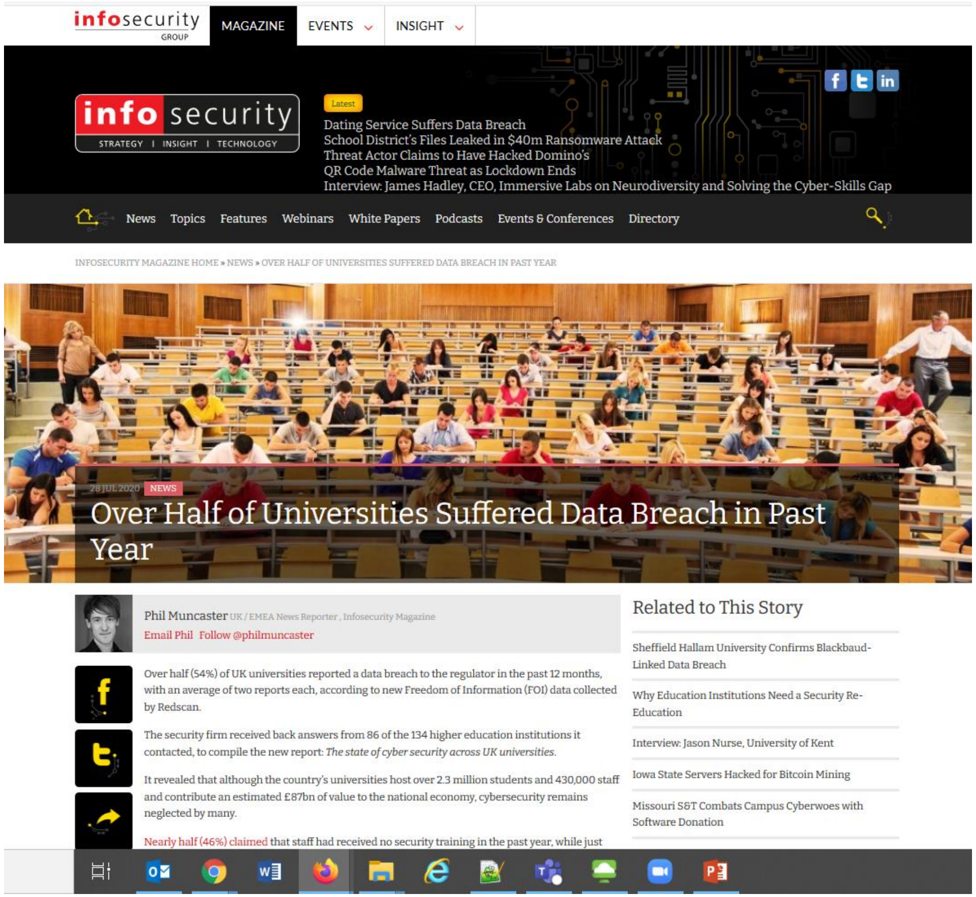
April 2021

The University of Hong Kong
Information Technology Services

Agenda

- Why Data Protection?
- HKU Policies and Guidelines
- ISDM Policy
- Data Classification
- Good Practices for IT Security

Why data protection by you?



Latest

Dating Service Suffers Data Breach
School District's Files Leaked in $40m Ransomware Attack
Threat Actor Claims to Have Hacked Domino's
QR Code Malware Threat as Lockdown Ends
Interview: James Hadley, CEO, Immersive Labs on Neurodiversity and Solving the Cyber-Skills Gap

INFOSECURITY MAGAZINE HOME » NEWS » OVER HALF OF UNIVERSITIES SUFFERED DATA BREACH IN PAST YEAR

28 JUL 2020 NEWS

Over Half of Universities Suffered Data Breach in Past Year

Phil Muncaster UK / EMEA News Reporter , Infosecurity Magazine
Email Phil Follow @philmuncaster

Over half (54%) of UK universities reported a data breach to the regulator in the past 12 months, with an average of two reports each, according to new Freedom of Information (FOI) data collected by Redscan.

The security firm received back answers from 86 of the 134 higher education institutions it contacted, to compile the new report: *The state of cyber security across UK universities.*

It revealed that although the country's universities host over 2.3 million students and 430,000 staff and contribute an estimated £87bn of value to the national economy, cybersecurity remains neglected by many.

Nearly half (46%) claimed that staff had received no security training in the past year, while just

Related to This Story

Sheffield Hallam University Confirms Blackbaud-Linked Data Breach

Why Education Institutions Need a Security Re-Education

Interview: Jason Nurse, University of Kent

Iowa State Servers Hacked for Bitcoin Mining

Missouri S&T Combats Campus Cyberwoes with Software Donation

Source: https://www.infosecurity-magazine.com/news/over-half-of-universities-suffered/

- DPP4
- Academic freedom

=> Very open@ firewalls

- Security is only as good as your weakest leak

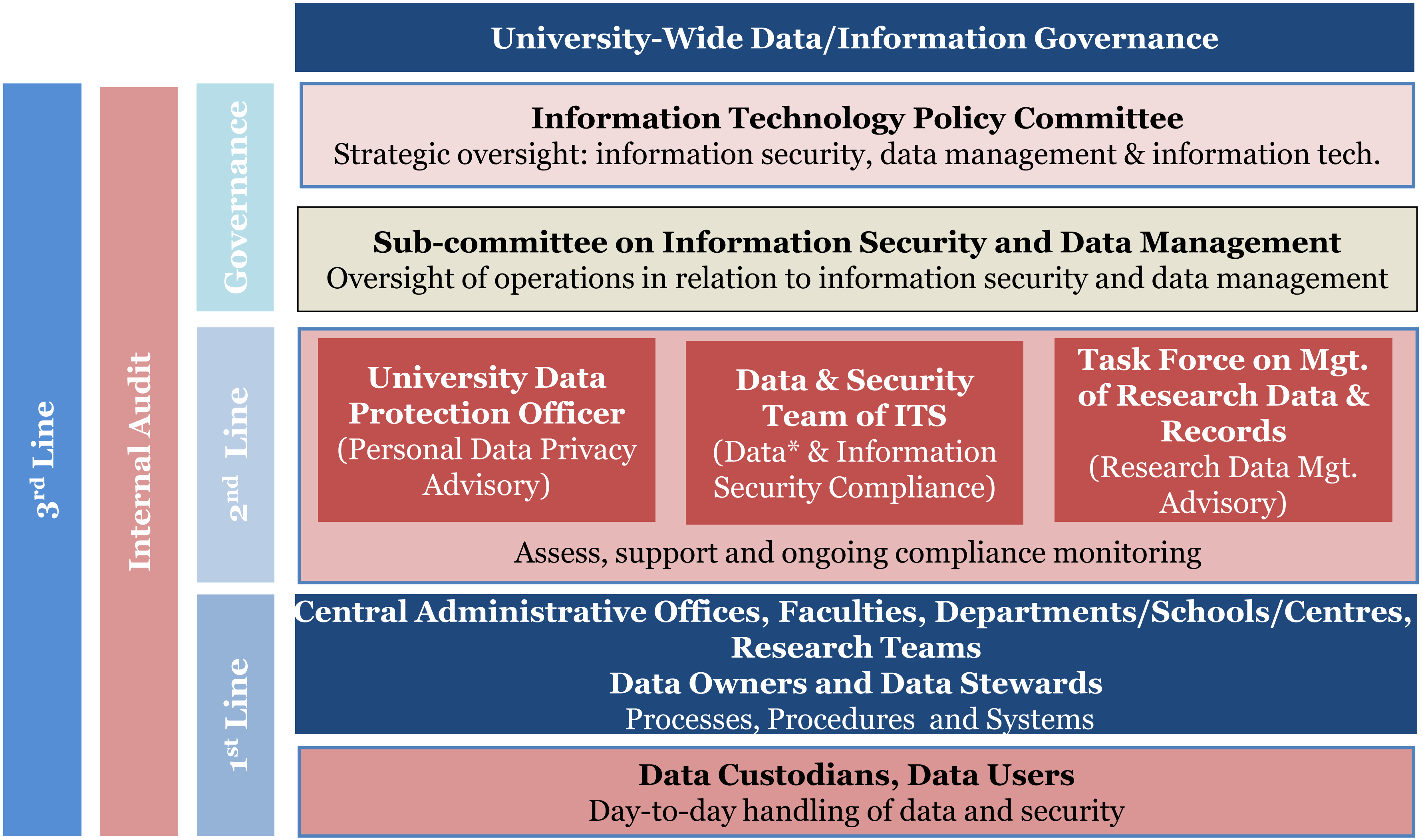
HKU ITS Policies & Guidelines

- http://www.its.hku.hk/about/policies
- Good advice on Information Security (IS)
- Regulations on what should not be done
  - Campus Network acceptable use policy
  - e.g. network scanning
- Privacy Policies
  - Personal Data Guidelines
  - Using External Web 2.0 Services for University Purposes
- Password Policy

ISDM Policy in a nutshell

- **I**nformation **S**ecurity and **D**ata **M**anagement Policy
- Launched in May 2017
- Define roles and responsibilities in a decentralized environment (three lines of defence, more in the next slide)
- The Council is the sponsor of the Policy
- See more https://isdm.hku.hk

ISDM governance structure



3rd Line

Internal Audit

Governance

2nd Line

1st Line

University-Wide Data/Information Governance

Information Technology Policy Committee
Strategic oversight: information security, data management & information tech.

Sub-committee on Information Security and Data Management
Oversight of operations in relation to information security and data management

University Data Protection Officer
(Personal Data Privacy Advisory)

Data & Security Team of ITS
(Data* & Information Security Compliance)

Task Force on Mgt. of Research Data & Records
(Research Data Mgt. Advisory)

Assess, support and ongoing compliance monitoring

Central Administrative Offices, Faculties, Departments/Schools/Centres, Research Teams
Data Owners and Data Stewards
Processes, Procedures and Systems

Data Custodians, Data Users
Day-to-day handling of data and security

* Including Personal Data Privacy

Data Classification Scheme

Strict requirements are imposed

01

Restricted

Very sensitive in nature and **strictly restricted** by the University, the government or any agreements

Example:
Sensitive information concerning a pending criminal investigation

02

Confidential

Intended for **use by specific group** of authorised personnel within the University and business partners

Example:
Student and staff information (e.g., Contact phone)

03

Internal

Non-sensitive operational data that is intended for **use within** by members of the University and authorised services providers

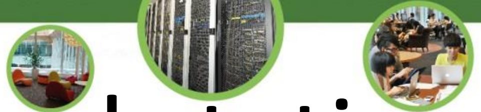
Example:
Internal policies

04

Public

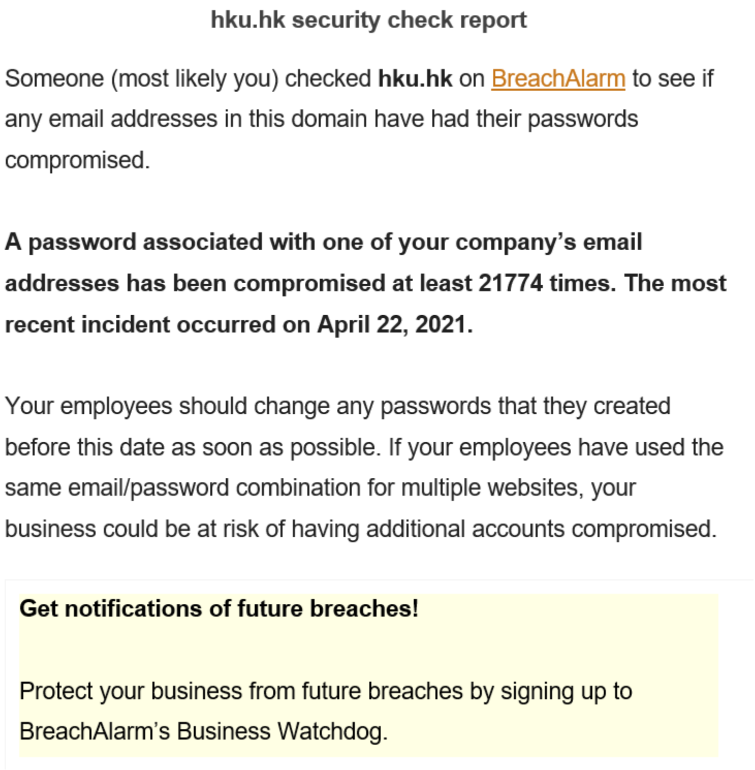
Approved by the appropriate University authority for **public consumption**

Example:
Press releases



Workstation (PC)

- ➢ Use strong password, 10 - 18 characters with combination of alphabet and numeric
- ➢ Enable PC login password and screen saver password
- ➢ Screen lock or logout your PC when unattended
- ➢ Do not install Peer-to-Peer(P2P) software on PC that handles confidential data
- ➢ Physically secure your notebook PC, tablet PC
- ➢ Avoid using public computer to access confidential files



hku.hk security check report

Someone (most likely you) checked **hku.hk** on BreachAlarm to see if any email addresses in this domain have had their passwords compromised.

A password associated with one of your company's email addresses has been compromised at least 21774 times. The most recent incident occurred on April 22, 2021.

Your employees should change any passwords that they created before this date as soon as possible. If your employees have used the same email/password combination for multiple websites, your business could be at risk of having additional accounts compromised.

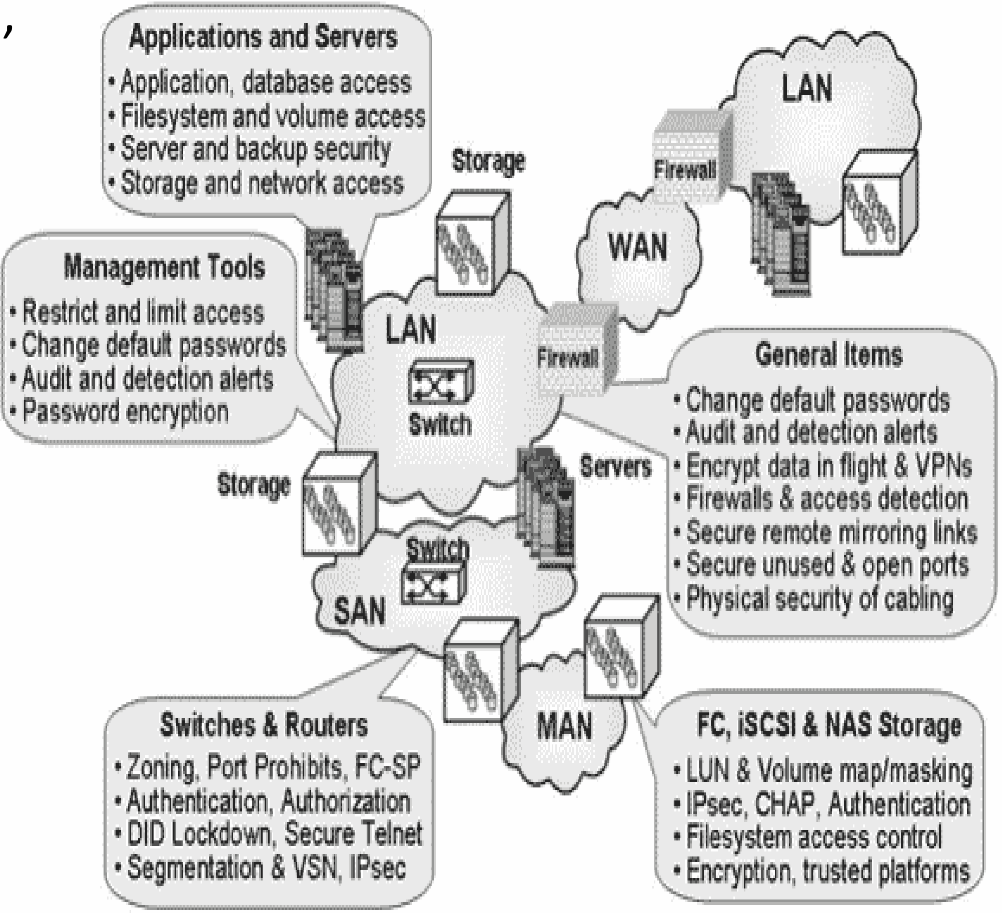
Get notifications of future breaches!

Protect your business from future breaches by signing up to BreachAlarm's Business Watchdog.

Storage

Data could be stored on personal PC, file server, mobile phone, Network Attached Storage(NAS), Cloud storage, files and folders… etc.

- ➢ **Apply access control**
  - Require user ID and password
  - Read, write, deny access
  - Logging
- ➢ **Use encryption**
- ➢ **Backup regularly**



Applications and Servers
- Application, database access
- Filesystem and volume access
- Server and backup security
- Storage and network access

Management Tools
- Restrict and limit access
- Change default passwords
- Audit and detection alerts
- Password encryption

General Items
- Change default passwords
- Audit and detection alerts
- Encrypt data in flight & VPNs
- Firewalls & access detection
- Secure remote mirroring links
- Secure unused & open ports
- Physical security of cabling

Switches & Routers
- Zoning, Port Prohibits, FC-SP
- Authentication, Authorization
- DID Lockdown, Secure Telnet
- Segmentation & VSN, IPsec

FC, iSCSI & NAS Storage
- LUN & Volume map/masking
- IPsec, CHAP, Authentication
- Filesystem access control
- Encryption, trusted platforms

Source: The StorageIO Group

Removable Storage

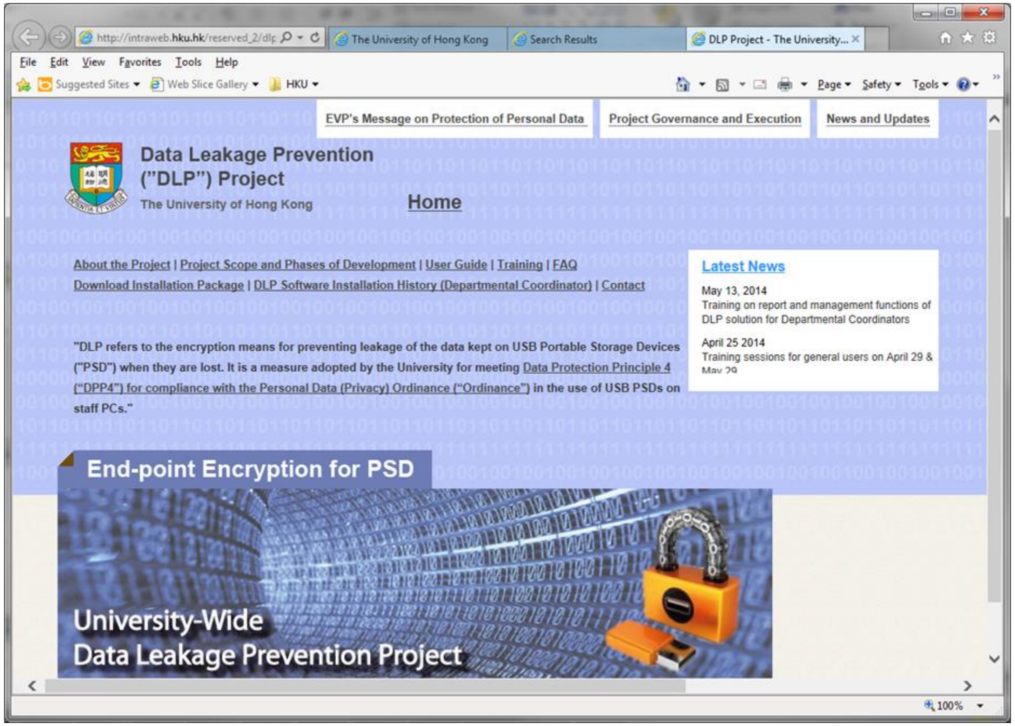
- ➢ Use encryption and password protected
- ➢ Erase the data after use (best reformat the USB drive)
- ➢ Don’t leave USB drive unattended
- ➢ Keep it safe
- ➢ Don’t use USB drive from unknown source
- ➢ Only store sensitive data on portable devices or media when absolutely necessary
- ➢ For storing personal data, adhere to the absolute necessary principle, seek permission and take protection measures (encryption) - see the Code of Practice
- ➢ Report to supervisor if lost USB drive that contains sensitive data

Guidelines on Electronic Communications and Storing Personal Data on Portable Storage Devices, Personally-owned Computers and Public Cloud Services

(http://www.its.hku.hk/about/policies/personal-data-guidelines)

Removable Storage

- ➢ Data Leakage Prevention (“DLP”) Protection (See Code of Practice)
- ➢ USB PSDs are required to be initialized before any write access of the device and only read access is allowed.



EVP's Message on Protection of Personal Data | Project Governance and Execution | News and Updates

Data Leakage Prevention ("DLP") Project
The University of Hong Kong

Home

About the Project | Project Scope and Phases of Development | User Guide | Training | FAQ
Download Installation Package | DLP Software Installation History (Departmental Coordinator) | Contact

"DLP refers to the encryption means for preventing leakage of the data kept on USB Portable Storage Devices ("PSD") when they are lost. It is a measure adopted by the University for meeting Data Protection Principle 4 (“DPP4”) for compliance with the Personal Data (Privacy) Ordinance (“Ordinance”) in the use of USB PSDs on staff PCs."

Latest News

May 13, 2014
Training on report and management functions of DLP solution for Departmental Coordinators

April 25 2014
Training sessions for general users on April 29 & May 29

End-point Encryption for PSD

University-Wide
Data Leakage Prevention Project

- Logon HKU Portal
- Search for “DLP”
- Click on the link “DLP for PSD”

Email & File Protection

Information Rights Management (IRM) Solution - AIP

- allows individuals to set access permissions to files and email messages.
- only authorized person is granted access (permission) to an IRM-controlled document.
- Prevent content from unauthorized *forwarding* (applicable to mail message), *editing*, *printing*, *faxing*, *saving*, or *copying* (cutting and pasting) the content
- Support major platforms: Windows(Full features), MacOS, Android, iOS
- User Guide: http://www.its.hku.hk/documentation/guide/communication/irm
- Training: http://www.isdm.hku.hk/communication

Cloud storage

Before uploading data to Cloud storage, you should consider:

- ➢ **Privacy and confidentiality**
- ➢ **Data Encryption**
  - ▪ uploaded to, downloaded from, and stored in the cloud
- ➢ **Exposure of data**
  - ▪ to cloud operator, local and foreign government or agency
- ➢ **References**
  - ▪ **Guidelines for Using External Web 2.0 Services** (https://intraweb.hku.hk/local/its/web2guidelines/)
  - ▪ **PCPD Information Leaflet – Cloud Computing** (https://www.pcpd.org.hk/english/resources_centre/publications/files/IL_cloud_e.pdf)

Mobile Security

"New Technology, old Privacy and Security issue"

➢ **Lost or stolen mobile devices**

- Enable screen lock
- Encrypt the data, such as email and documents
- Use Remote Wipe and Anti-Virus
- Beware of automatically login of company email & file server

➢ **Malware and virus**

- Steal bank details, company data, personal identities & email addresses

➢ **Beware of apps sources and access rights**

- Install from trusted sources only
- Beware of app requests of excessive permissions of devices

Phishing Email

Phishing is the act of attempting to acquire information such as usernames and password by pretending from a trusted entity, e.g. ITS or other department of the University

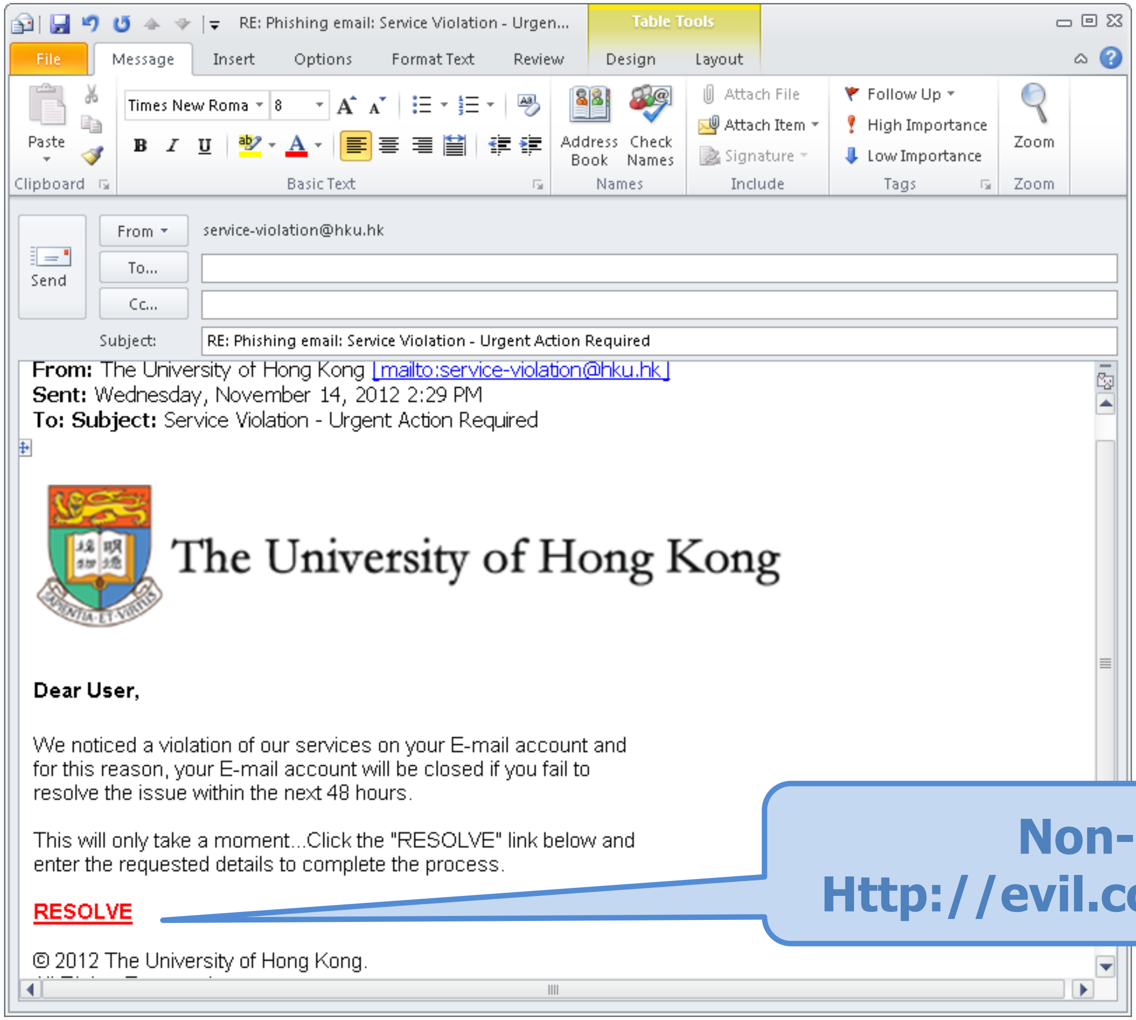
➢ **Signs of a phishing email:**

- Unofficial “From” address
- Urgent actions required
- Generic greeting
- Link to a fake website, sometimes with legitimate links

➢ **What to do if you receive phishing email**

- Delete these suspicious emails
- Don’t reply or click any link on them
- Check HKU Spam Report website http://www.its.hku.hk/spam-report
- Report to ithelp@hku.hk

Phishing email



From: service-violation@hku.hk

Subject: RE: Phishing email: Service Violation - Urgent Action Required

From: The University of Hong Kong [mailto:service-violation@hku.hk]
Sent: Wednesday, November 14, 2012 2:29 PM
To: Subject: Service Violation - Urgent Action Required

The University of Hong Kong

Dear User,

We noticed a violation of our services on your E-mail account and for this reason, your E-mail account will be closed if you fail to resolve the issue within the next 48 hours.

This will only take a moment...Click the "RESOLVE" link below and enter the requested details to complete the process.

RESOLVE

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Sample of phishing email

Non-HKU Hyperlink
Http://evil.com/cheat_u/login.htm

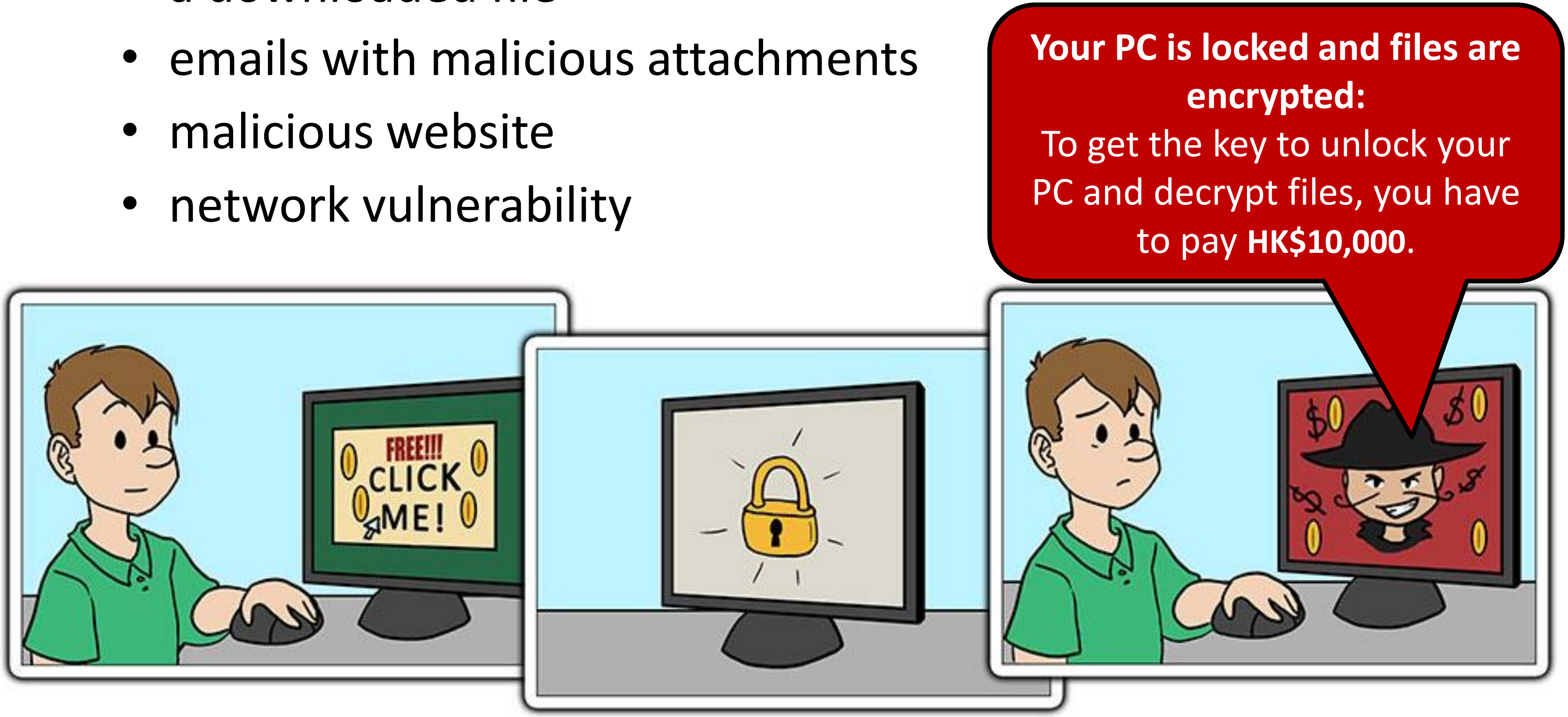
Ransomware

Ransomware is malicious software which encrypts files and waits for a paid ransom,
and in some cases, normal use of the infected computers cannot be resumed even a ransom is paid.

Ransomware

Ransomware typically propagates in the form of a Trojan horse which enters a computer through

- a downloaded file
- emails with malicious attachments
- malicious website
- network vulnerability



Your PC is locked and files are encrypted:
To get the key to unlock your PC and decrypt files, you have to pay **HK$10,000**.

Protecting PC from ransomware

1. Regularly backup your PC data and keep a recent backup copy off-line.
2. Ensure anti-virus software is installed on your PCs and keep it up-to-date with the latest virus signature.
3. Keep the operating systems of your PCs up-to-date.
4. For suspicious emails, attachments/files and unsolicited web sites, please do not open them.
5. Do not enable macros in document attachments received via email.
6. Limit the privilege & access right of shared network drives.

Refer to HKU ITS web site
http://www.its.hku.hk/faq/infosec/awareness/ransomware

Thank You

The University of Hong Kong
Information Technology Services