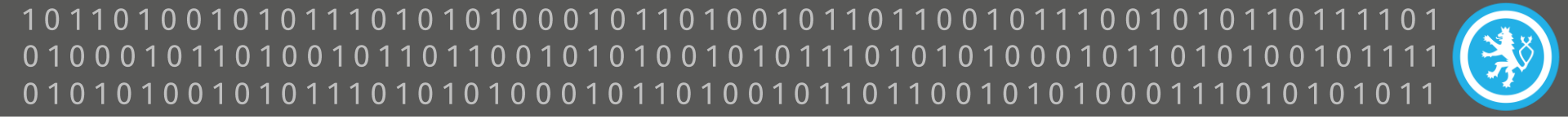


SECURING USER

Jakub Melichar

National Cyber and Information Security Agency

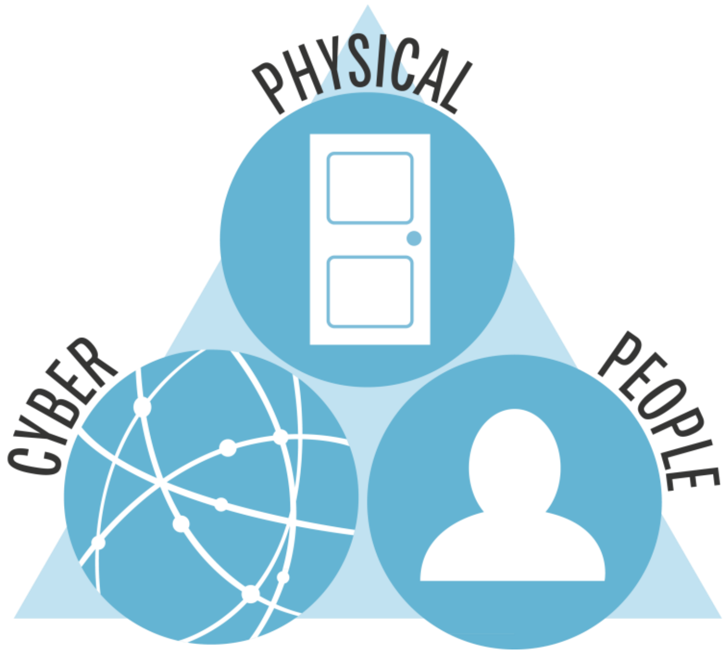
NÚKIB

WHY EDUCATE USER?

- 95 % incidents involve human mistake
- Insufficient experience and training
- Two layers of resilience
  - Secure environment
  - Secure behaviour

PHYSICAL SECURITY

- Confidentiality breach
- Data theft
- Impersonation
- Malware infection
- Backdoor, long-term access



SECURITY CRITERIA - CONFIDENTIALITY

- Risk examples
  - Eavesdropping
  - Unintentional publish

- Protection means
  - Access restriction
  - Caution with transfer/publishing
  - Encryption

SECURITY CRITERIA- INTEGRITY

- Risk examples
  - Files manipulation
  - Alteration of data in transit

- Protection means
  - Authentication of data and parties
  - Checksums
  - Reliable communication channels

SECURITY CRITERIA- AVAILABILITY

- Risk examples
  - Data removal
  - Denial of access

- Protection means
  - Accurate access control
  - Secure access restoration
  - Secondary access (communications, device)
  - Backups

STRONG AUTHENTICATION

- Memorable, but hard to guess
- password vs. passphrase
- Sufficiently long (13+ symbols)
- **Do not use same passwords for multiple services!**
- Password manager
- 2 Factor Authentication (2FA)

WEB & SECURITY

- Check URL in links
- Do not visit untrustworthy sites
- Do not open unknown downloads
- Careful with plugins
- Careful with URL shorteners (https://goo.gl/GJ7gd)

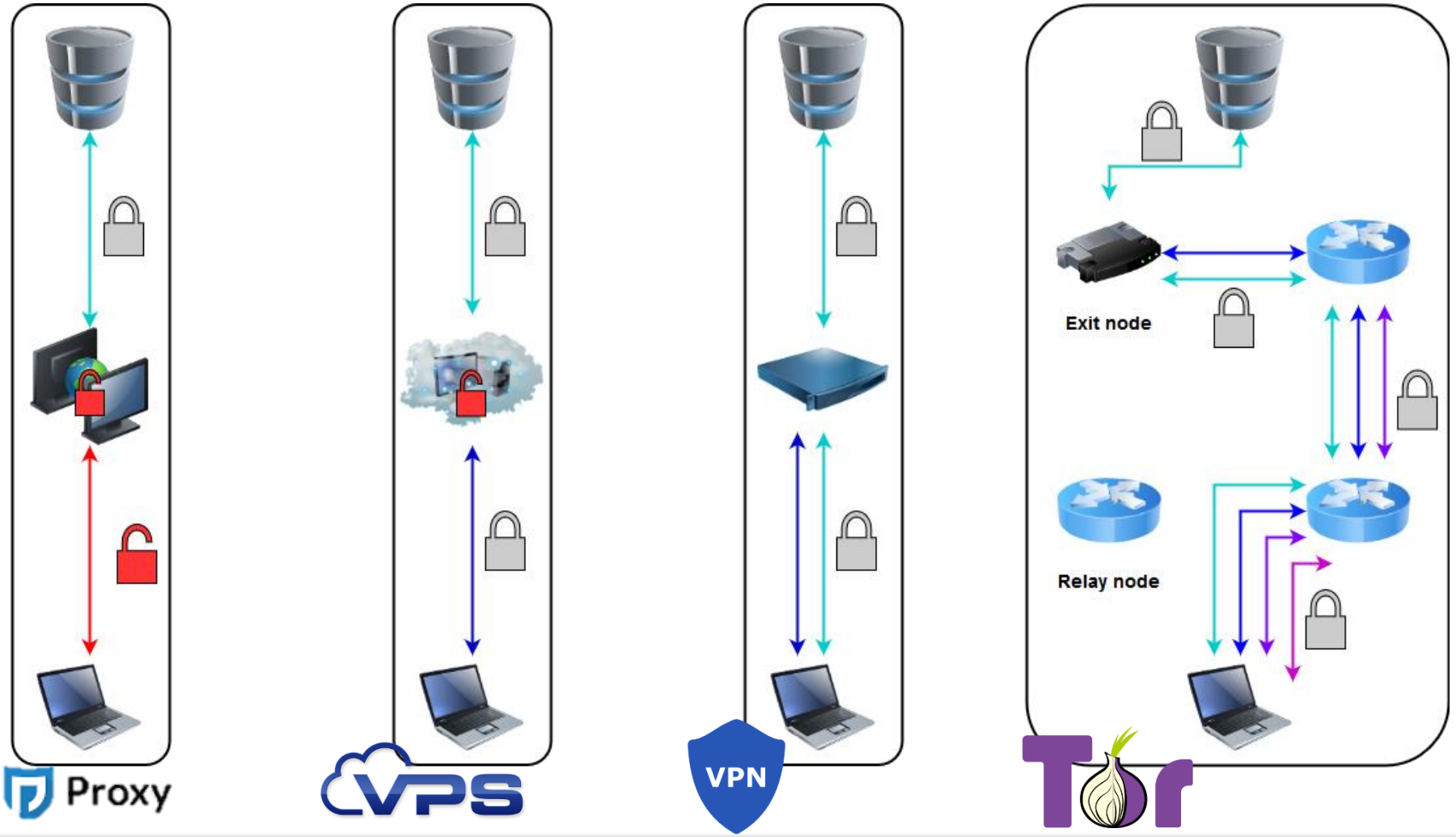
- https:// (SSL/TLS security)
  - Domain authentication
  - Encrypted channel
  - Necessity for private activities

WIRELESS SECURITY

- Do not use open WiFi networks
  - Not-encrypted data transmission
  - Anyone in your vicinity can see your traffic

- Careful with public WiFi networks
- Secure personal hotspot - WPA2-PSK/AES (WPA3 late 2018)
- **Remove unused networks**

WEB & ANONYMITY



EMAIL & SECURITY

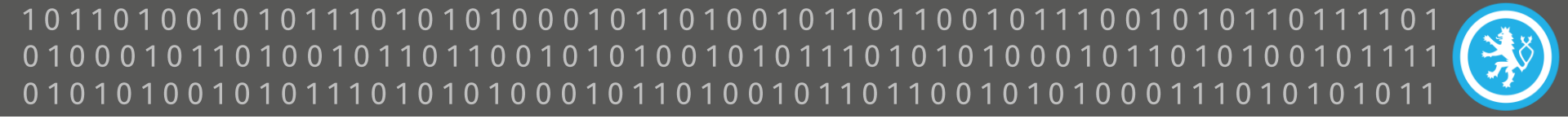
- Sever personal and work communication
- Do not open unwanted emails
- Do not open suspicious attachments
- Always make sure you logged out of webmail
- For sensitive matters use encryption
- **Reliable origin only with digital signature**

SYSTEM SECURITY

- **Protect user with authentication**
- **Lock your screen**
- **Do not use privileged account**
- Update system & apps
- Storage encryption
- Security software
- Regular backups
- Disable interfaces
- Do not plug in unknown devices

GET YOUR HABITS RIGHT

- Regular security revision
  - Change your passwords
  - Check security settings
  - Create backups
- Think through the situation when…
  - You forget your password
  - Lose your means of authentication (phone, token, certificate)
  - Someone else is controlling your account
- **CHALLANGE EVERYTHING THAT IS BEING SERVED TO YOU**



THANK YOU FOR YOUR ATTENTION

Národní úřad
pro kybernetickou
a informační bezpečnost

- How does HTTPS provide Encryption? | The Curious Engineer. YouTube [online]. https://www.youtube.com/watch?v=w0QbnxKRD0w
- Your deleted file still exists | The Curious Engineer. YouTube [online]. https://www.youtube.com/watch?v=bKaT5B9Qgzw
- How Safe is Your Password? - Brit Lab. YouTube [online]. https://www.youtube.com/watch?v=z25UlNNHGTw
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