Security Automation and Optimization using HP-NA

Florian Ecard
SNE master student

Supervisor: Olivier Willm

4th February 2015

Universiteit van Amsterdam
Security Automation and Optimization using HP-NA

- What is HP Network Automation?

- What were the objectives with it?
  - CVE retrieval automation using HP-LNc
  - Integrity of the configuration's Security
  - New HP-NA certificate
  - SSH keys
Research question

- Evaluate the software capabilities to audit the configurations about potential security issues from the CVE database.

- How to automatically check the configuration's security integrity?

- How does it fit in an overall network security improvement process?
HP-LNc Installation & Configuration

- Linux Redhat server
- Use of the CLI
- Choose the products
- Two users & passwords
- Automation using HP-NA

→ Documentation
Automate the configuration integrity checking

- What kind of configuration is verified?
  - Cisco IOS
  - Cisco NXOS

- Why checking their integrity?
Automate the configuration integrity checking

- What is being checked?
  - ACLs, AAA & Usernames
  - Features & VTY
  - NTP
  - Logging facilities

- How was it done with HP-NA?
  - Create groups, policies and tasks
CA-signed HP-NA certificate

- What for?
- What are the `.keystore` and `.truststore` files?
- What steps should be followed?

- public key generation
- CSR generation
- 1 + 3 certificates returned

And the result is → → →
CA-signed HP-NA certificate

Page Web inaccessible

Actualiser
CA-signed HP-NA certificate

- The problems were due to ... Stupidity! :-(
  - Asked for a www
  → Documentation
Problems encountered

- User accounts access
- HP-NA unavailability
- HP-LNc configuration entered using vim
- HP-LNc user access & privileges
- Certificates
RESEARCH QUESTION:
- Evaluate the software capabilities to audit the configurations about potential security issues. Define specific policies from the CVE database.

- How to automatically check the configuration's security integrity?

- How does it fit in an overall network security improvement process?
Conclusion

- Future work
  - Perl API
  - SSH keys checking
Security Automation and Optimization using HP-NA

Questions ?? :-)

13