Syncthing + your PW manager = Zero-trust password syncing between devices.

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Who am I?

- Marcus Eaton
- Linux/FOSS enthusiast
- Sysadmin in training

P@$$w0rd$_$uck.

- We suck at remembering them.
- We suck at making them.
- Computers are good at guessing them.
- Biometrics are a supplement, not a replacement
- Not everything has MFA **still**.
- Not a robot tests aren't as effective anymore.

So… what to do?

- People have lots of passwords.

- How do you keep track?

  - Use the same password for all logins?

  - Write them down on paper?

  - Unencrypted file?

  - Browser autofill?

So how bad is it?

Jai Vijayan @ darkreading.com:

"...Though 91% of the respondents profess to understand the risks of using the same passwords across multiple accounts, 59% said they did so anyway. For 61%, it is the fear of forgetfulness that was the primary reason for password reuse. 50% say they reuse passwords across multiple accounts because they want to know and be in control of their passwords all the time..."

Hold on, it gets worse!

"...53% of the respondents confess to not changing their passwords in the past 12 months even though they were aware of the risks, and despite news of a data breach involving password compromise. Not only did nearly 6 in 10 of the users polled use the same password across accounts, they rarely if ever change the password over time. In fact, 15% of the respondents say they would rather do a household chore or sit in traffic (11%) than change their passwords."

We suck at making passwords

- Some examples of bad passwords
  - (pulled from Troy Hunt's Pwned Password set)
    - 123456
    - 123456789
    - qwerty
    - password
    - 111111

The real solution: Password Managers

- Solves major downfalls of other methods:
  - Remembers the passwords for you (duh)!
  - Encrypted at rest (hopefully).
  - Expiration reminders.
  - Automatic strong password generation.

...continued...

- Automatic login/auto-typing
- (Hopefully) secure software with minimal vulns
- Organization and sorting options

Some examples...

- Local Database File
  - KeePass, 1Password
- Centralized Server
  - Roll your own (self-hosted)
    - Bitwarden, Device42, Nextcloud plugin
  - In the "cloud"
    - Lastpass, Dashlane

Each type has a downside!

- Local database file
  - Doesn't follow you between devices
    - We can fix that...
- Centralized server
  - One location to attack
  - Have to setup & secure
    - Or use a cloud option...

What's a Syncthing?

- Syncthing is…
  - A file syncronization program that:
    - Works on all major platforms
    - Free as in speech and beer!
    - Is directly peer to peer between devices you choose to allow
    - Encrypted in transit
    - Syncs only the changes

How does it work? Scenario 1

- PC A & B are at two different locations on the internet.
- PC A & B both contact a global discovery server and tell it their IP address and sync ID.
- PC A adds PC B's sync ID to their config.
- PC B is notified that A would like to connect. The user accepts.
- PC B sends a response to PC A.
- PC A then sends the list of folders it would like to share. PC B can choose to accept or reject any ones it chooses.

How does it work? Scenario 2

- Two PCs are on the same local network with the same subnet, PC A and PC B.

- PC A and B broadcast using IPv6 to all hosts on the network to attempt finding other peers.

- PC A finds PC B and remembers it's sync ID.

- When user goes to add PC B, the sync ID is available to pick instead of manually entering it.

- Sync happens directly over the local network.

So… what's the catch?

- Takes a bit of setup to get started
  - Set up Syncthing
  - Changing all your passwords
  - Entering them into the password manager
- Adding new devices is easier
  - Just install Syncthing and add them to your other device(s)
    - Introducer feature helps with this if you have a lot of devices.

Yeah, seriously! That's it!

- Syncthing can sync any other files:
    - Pictures/Videos from your phone to your PC or NAS
    - Document files between your PC and laptop
    - File backups to your NAS
    - Send files to friends over the internet

Demo

Time for a live demonstration...

Sources

- https://www.darkreading.com/informationweek-home/password-reuse-abounds-new-survey-shows/d/d-id/1331689

- https://www.troyhunt.com/86-of-passwords-are-terrible-and-other-statistics/

- https://docs.syncthing.net/

Thank you!

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Please enjoy the rest of LFNW 2019!