

SECURITY ESSENTIALS

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SIMPLE STEPS YOU CAN TAKE TO PROTECT YOUR FAMILY AND BUSINESS
FROM HACKERS, VIRUSES, AND OTHER THREATS

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PROTECT YOUR ONLINE ACCOUNTS



PASSWORDS



2FA

PASSWORDS

- THE GUIDANCE YOU'VE BEEN TOLD ALL THESE YEARS? IT'S WRONG.
- USE A PASSPHRASE.
- BUT DON'T FORGET THE SECOND FACTOR!
- AND DON'T REUSE PASSWORDS ACROSS [IMPORTANT] SITES!
- HOW TO REMEMBER?

<p>UNCOMMON (NON-GIBBERISH) BASE WORD</p> <p>ORDER UNKNOWN</p> <p>Tr0ub4dor &3</p> <p>CAPS? <input type="checkbox"/></p> <p>COMMON SUBSTITUTIONS <input type="checkbox"/></p> <p>NUMERAL <input type="checkbox"/></p> <p>PUNCTUATION <input type="checkbox"/></p> <p>(YOU CAN ADD A FEW MORE BITS TO ACCOUNT FOR THE FACT THAT THIS IS ONLY ONE OF A FEW COMMON FORMATS.)</p>	<p>~28 BITS OF ENTROPY</p> <p>$2^{28} = 3 \text{ DAYS AT } 1000 \text{ GUESSES/SEC}$</p> <p>(PLAUSIBLE ATTACK ON A WEAK REMOTE WEB SERVICE. YES, CRACKING A STOLEN HASH IS FASTER, BUT IT'S NOT WHAT THE AVERAGE USER SHOULD WORRY ABOUT.)</p> <p>DIFFICULTY TO GUESS: EASY</p>	<p>WAS IT TROMBONE? NO, TROUBADOR. AND ONE OF THE 0s WAS A ZERO?</p> <p>AND THERE WAS SOME SYMBOL...</p> <p>DIFFICULTY TO REMEMBER: HARD</p>
<p>correct horse battery staple</p> <p>FOUR RANDOM COMMON WORDS</p>	<p>~44 BITS OF ENTROPY</p> <p>$2^{44} = 550 \text{ YEARS AT } 1000 \text{ GUESSES/SEC}$</p> <p>DIFFICULTY TO GUESS: HARD</p>	<p>THAT'S A BATTERY STAPLE.</p> <p>CORRECT!</p> <p>DIFFICULTY TO REMEMBER: YOU'VE ALREADY MEMORIZED IT</p>

THROUGH 20 YEARS OF EFFORT, WE'VE SUCCESSFULLY TRAINED EVERYONE TO USE PASSWORDS THAT ARE HARD FOR HUMANS TO REMEMBER, BUT EASY FOR COMPUTERS TO GUESS.

PASSWORD MANAGERS

- YOUR MAC OR PC COME WITH ONES THAT WORK FINE.
- IF YOU WANT TO SHARE, LASTPASS AND 1PASSWORD ARE BOTH GOOD OPTIONS.
- LET THEM DO THE COMPLICATED PASSWORDS AND REMEMBER THEM



LastPass...

TWO (OR THREE) FACTOR AUTHENTICATION

- SOMETHING YOU KNOW (A PASSWORD)

AND

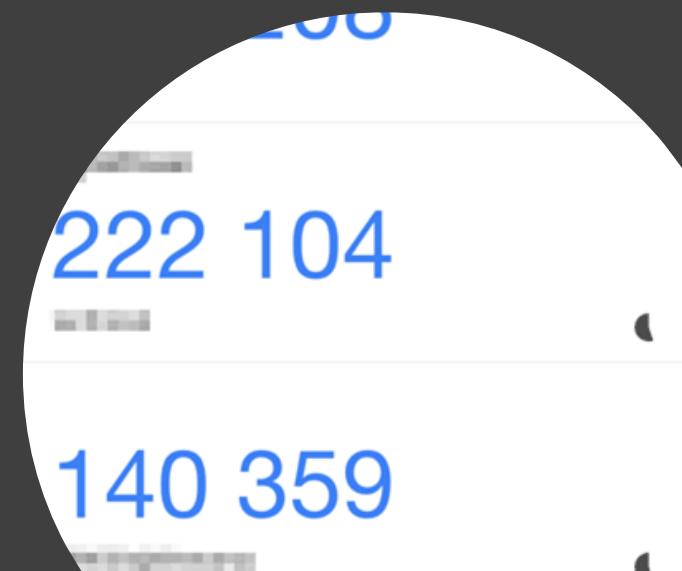
- SOMETHING YOU HAVE (YOUR PHONE/A KEY/A TOKEN)

AND/OR

- SOMETHING YOU ARE (YOUR FINGERPRINT/FACE GEOMETRY)

SEE [HTTPS://TWOFACTORAUTH.ORG](https://twofactorauth.org) ON HOW TO ENABLE FOR ALL YOUR FAVORITE SITES.

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PROTECT YOUR COMPUTERS

Turn on

Turn on the firewall. Everywhere.

Buy

Buy a decent router. Turn on its firewall.

Use

Use an Ad-Blocker

Patch

Patch all the things!

FIREWALLS



TURN ON WHEREVER YOU CAN
– LAPTOPS, DESKTOPS, MAC,
PC, ROUTER



THERE ARE ALSO PHONE APPS
AS WELL, BUT BE CAREFUL.

ROUTERS

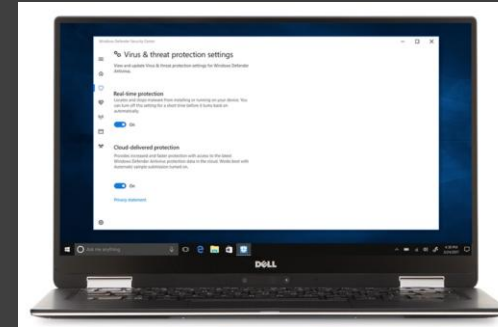
- THE ONE FROM YOUR ISP? DON'T TRUST IT.
- A DECENT ONE WILL BE \$100 AND UP FROM A KNOWN BRAND
 - LINKSYS, D-LINK, ASUS, GOOGLE, NETGEAR, UBIQUITI, MERAKI, CISCO
- WHATEVER YOU BUY MAKE SURE YOU:
 - SET A STRONG PASSPHRASE ON THE WIRELESS
 - SET IT TO AUTOMATICALLY UPDATE/UPGRADE ITSELF.
 - TURN ON THE FIREWALL

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ANTI-VIRUS

- RUNNING WINDOWS? WINDOWS DEFENDER IS GOOD ENOUGH.
 - JUST MAKE SURE YOU TURN IT ON.
- YES, YOUR MAC NEEDS IT TOO.
 - CYLANCE, SOPHOS, AVAST ARE ALL GOOD OPTIONS.



PATCHING



Yes it's annoying.



Just do it.



Don't forget all your devices!

Phone
Laptop
Desktop
Router/Firewall
TV
Medical Devices
Car

OTHER TIPS



USE A SEPARATE BROWSER
OR DEVICE FOR CASUAL
USE VS IMPORTANT BUSINESS



NOTHING SAYS YOU HAVE
TO BE HONEST



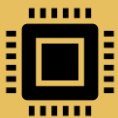
USE A TEMPORARY E-MAIL
SERVICE



The IRS and SSA do not e-mail or call when they have an issue.



Neither does that solicitor



Microsoft, Apple, and your software providers will never call.



Gift cards are never a valid payment option

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SOCIAL ENGINEERING

PRIVACY



IF YOU AREN'T PAYING
FOR THE SERVICE, YOU'RE
THE PRODUCT. NOT THE
CUSTOMER



USE AN AD-BLOCKER.



INCOGNITO OR PRIVATE
BROWSING MODES HELP,
BUT THEY'RE NOT
FOOLPROOF



OPT-OUT AT
[HTTP://OPTOUT.NETWORK
ADVERTISING.ORG/?C=1](http://optout.networkadvertising.org/?C=1)



DOUBLE-CHECK THE
PRIVACY SETTINGS ON
YOUR PHONE APPS

PRIVACY FOR BUSINESS



Notice



Review



Modify



Delete

A photograph of a large, moss-covered rock in a forest. The rock is covered in green moss and is surrounded by trees and foliage. The word "QUESTIONS?" is overlaid in white text in the center of the image.

QUESTIONS?

THANK YOU FOR YOUR TIME

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