

Cybersecurity Introduction

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Cybersecurity Topics



- **Introduction & Threats**
- **Antivirus Software**
- **Password Managers**
- **Backups**
- **Phone Scams & Call Blocking Apps**
- **GCC Classes**
- **Summary - Actions**

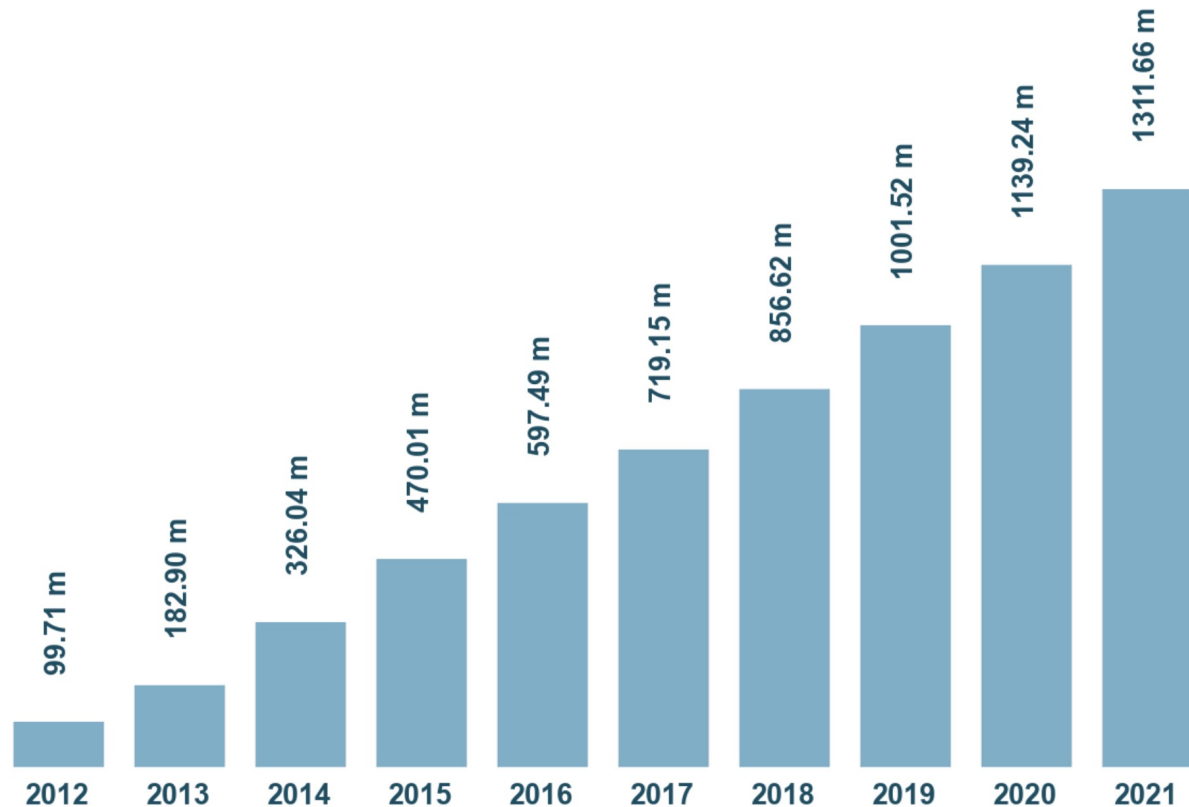
Cybersecurity Introduction

- **Hardening** your computer is an essential step for securing your personal information and data
- **Hardening** tries to **detect, delay and deny** external users using your computer
- **Hardening** involves several steps to form “layers” of protection
 - Using antivirus and antispyware protection
 - Regularly downloading the latest manufacturers patches
 - Disabling unused software and applications
 - Use strong passwords for all accounts
 - Use a firewall
 - Lock your PC / Mac screen when not in use
 - Shut down computer if gone more than 6 hrs
 - Install a back-up system

Characteristics of Home Cybersecurity Threats

Threats	Threat Types	Devices	Preventions
Devices	Ransomware	Computers	Backups - #1
Identity	Phishing	Modem / Router / hub	Operating system updates
Accounts	Malicious Apps	Network / ISP	Firmware updates
Home	Social Media	Streaming devices	Antivirus / Anti-malware
	Virus & worms	Internet of Things (IoT)	Browser Hardening
	Wi-Fis	Smart Home Devices	Password Management
		Medical monitoring	Encryption
			2-Factor Authentication

Total malware



Total Malware

(<https://www.av-test.org/en/statistics/malware/>)

- Every day, the AV-TEST Institute registers over 450,000 new malicious programs (malware) and potentially unwanted applications (PUA).

Android Malware

(<https://www.av-test.org/en/statistics/malware/>)

Development of Android malware

AV-TEST

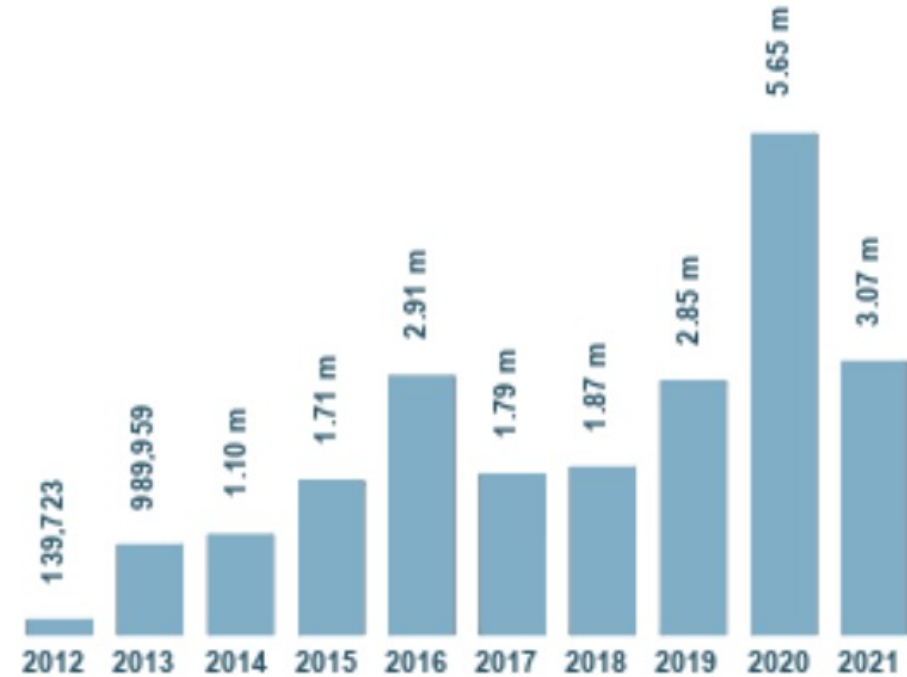


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Development of PUA for Android

AV-TEST



Last update: December 28, 2021

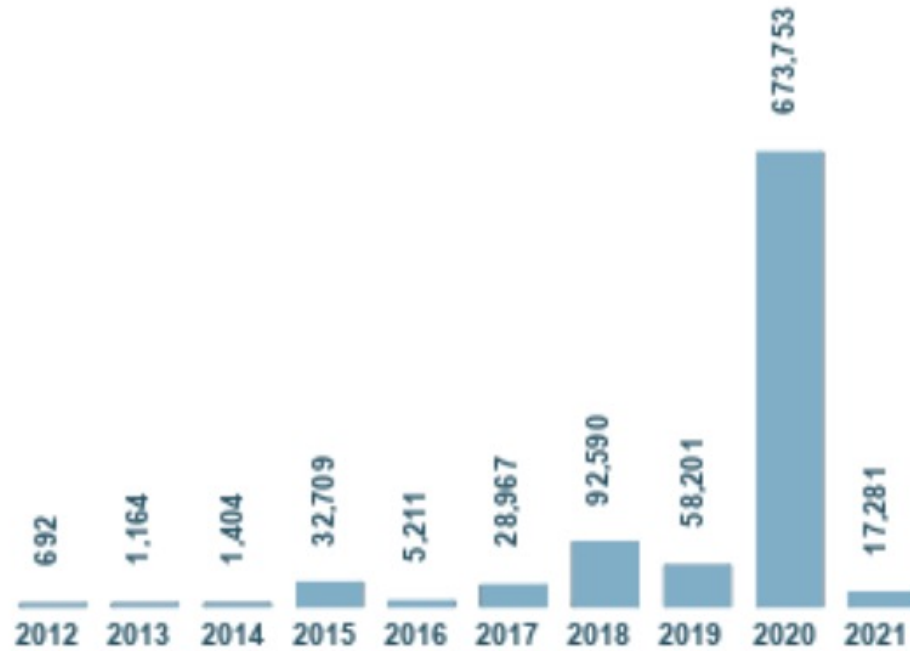
©AV-TEST GmbH

MacOS Malware

(<https://www.av-test.org/en/statistics/malware/>)

Development of MacOS malware

AVTEST

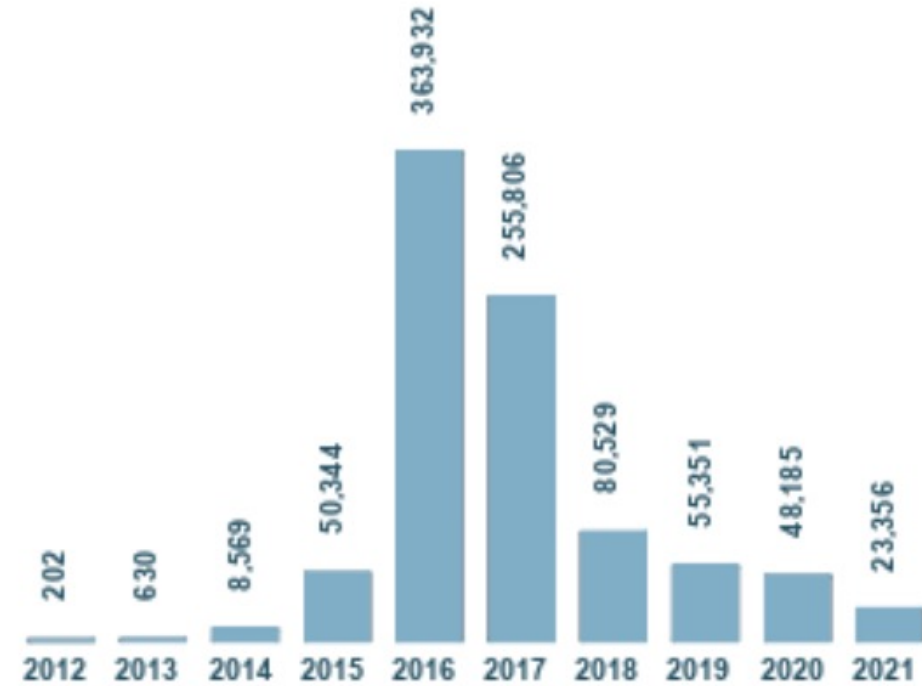


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Development of PUA for MacOS

AVTEST



Last update: December 28, 2021

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Windows Malware

(<https://www.av-test.org/en/statistics/malware/>)

Development of Windows malware

AV-TEST

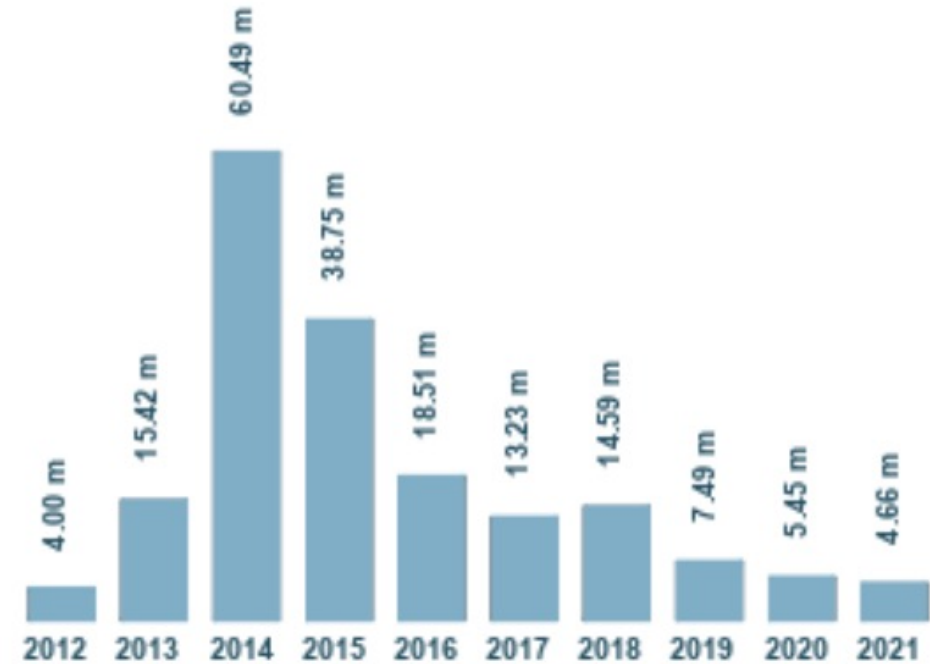


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Development of PUA for Windows

AV-TEST



Last update: December 28, 2021

©AV-TEST GmbH

Top ten countries

Complete list

Last 14 days

Country	Last 14 days
Vereinigte Staaten von Amerika	33.3%
Bulgarien	12.1%
Russische Föderation	9.8%
Serbien	6.1%
Großbritannien	5.4%
Brasilien	3.6%
Ukraine	3.2%
Indien	2.1%
Argentinien	1.6%
Vietnam	1.2%

Last 60 days

Country	Last 60 days
Vereinigte Staaten von Amerika	40.8%
Russische Föderation	8.7%
Bulgarien	5.8%
Deutschland	3.7%
Großbritannien	3.4%
Serbien	2.9%
Brasilien	2.9%
Indien	2.0%
Ukraine	1.9%
Frankreich	1.9%

Last 180 days

Country	Last 180 days
Vereinigte Staaten von Amerika	43.3%
Russische Föderation	9.4%
Deutschland	7.0%
Frankreich	3.0%
China	2.8%
Bulgarien	2.1%
Ukraine	2.0%
Brasilien	1.9%
Spanien	1.6%
Großbritannien	1.5%

COUNTRIES SENDING MOST SPAM

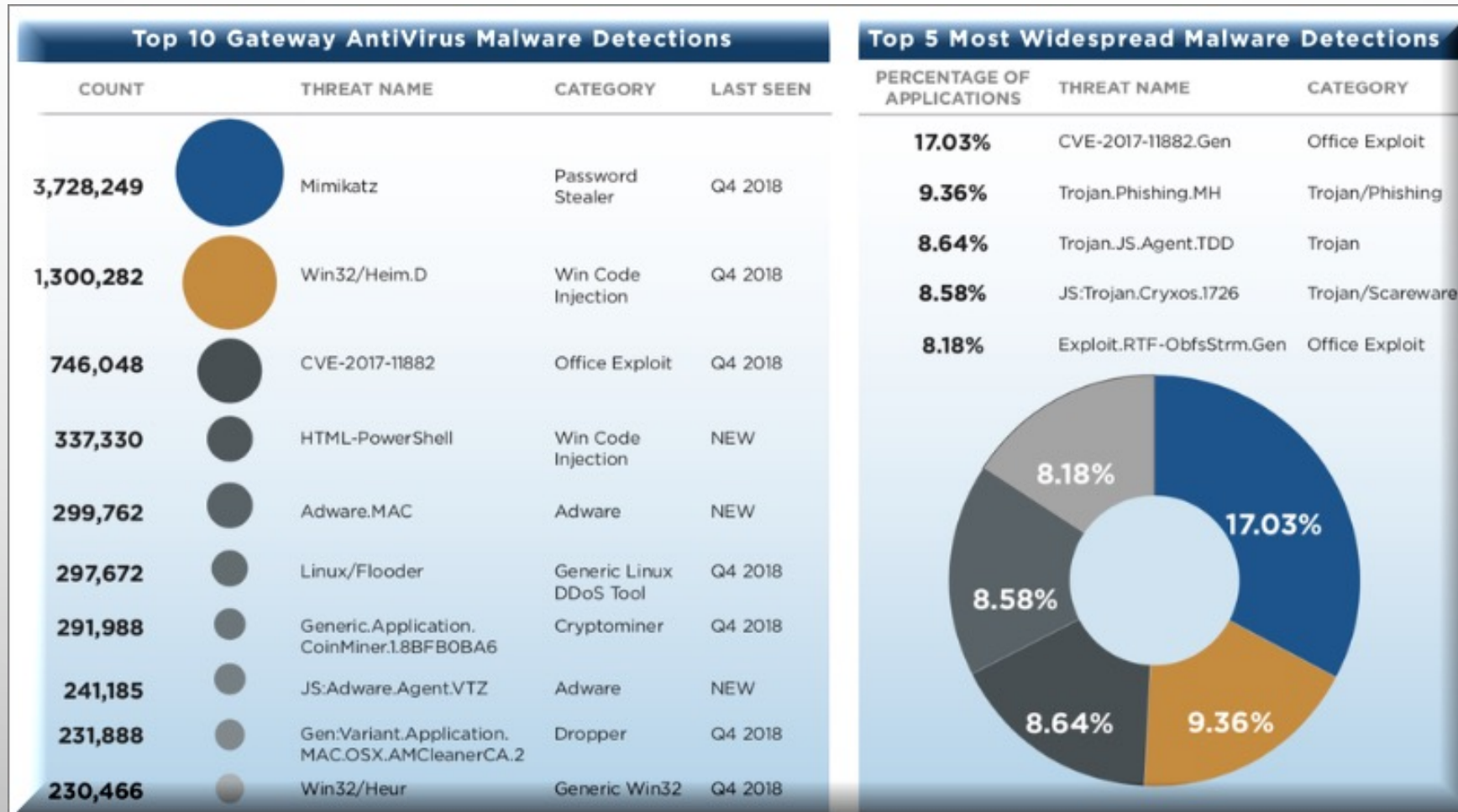
([HTTPS://WWW.AV-TEST.ORG/EN/STATISTICS/SPAM/](https://www.av-test.org/en/statistics/spam/))

DECEMBER 28, 2021

Surge in Mac Malware

(<https://www.appleworld.today/blog/2019/6/25/new-research-says-theres-a-surge-in-mac-malware>)

- Illustrates the importance of layered security protections in today's advanced threat landscape



Threats, Updates & Passwords

- **Three places threats are likely to come from:**
 - **Internet**
 - **Via email**
 - **Someone with direct access / Phone calls**
- **Always update to latest Operating System**
 - **Have the latest security updates**
 - **If your computer won't update to latest OS, it is your signal to upgrade to a newer computer**
- **Passwords**
 - **Use complex 12-16-character passwords**
 - **Do not use same password for different accounts**
 - **Must have a Password Manager**
 - ❖ *Cloud based, encrypted files, synced to all devices*

Best Overall

1



10.0 ★★★★★

\$9.99 Antivirus Plus or \$19.99 N360 Deluxe

- Compatible with Windows, Mac, Android, and iOS
- LifeLock™ security with select plans
- Million Dollar Protection Package

[Read full Norton 360 Review](#)

Visit Site

109 people chose Norton 360 today!

Compatible with:



2



9.3 ★★★★★

Free Download

- Compatible with Windows, Mac, Android, and iOS
- Safe password vault
- 30-day money-back guarantee

[Read full TotalAV Review](#)

Visit Site

Compatible with:



3



9.1 ★★★★★

Up to \$115 Off

- Compatible with Windows, Mac, Android, and iOS
- Parental controls included
- 30-day money-back guarantee

[Read full McAfee Review](#)

Visit Site

Compatible with:



4



8.9 ★★★★★

- Compatible with Windows, Mac, Android, and iOS
- PCMag Editors™ Choice award-winner
- 30-day money-back guarantee

[Read full Bitdefender Review](#)












Visit Site

Compatible with:



Best PC Antivirus Software – 2022

(<https://tinyurl.com/yx9vfvkr>)





2022 Editor's Pick			
1	 	<ul style="list-style-type: none"> ✓ Best macOS malware scanner for 2022 ✓ Excellent design - intuitive + easy to use ✓ Virus protection, firewall, real-time scanning ✓ Premium VPN available ✓ Exclusive discounts for first-time users <p>🔥 Over 6,000 people have picked Intego Antivirus in the last 30 days</p>	9.9 OUTSTANDING ★★★★★ Visit Website >> intego.com
2	 	<ul style="list-style-type: none"> ✓ Full internet security suite for Mac ✓ Strong malware scanning engine (100% in tests) ✓ Secure VPN, password manager, cloud storage ✓ Parental controls - search + video supervision 	9.8 EXCELLENT ★★★★★ Visit Website >> norton.com
3	 	<ul style="list-style-type: none"> ✓ Complete macOS security + optimization ✓ Many tools - antivirus, ID guard, ad blocker, VPN ✓ 24/7 personal tech support 	9.1 VERY GOOD ★★★★★ Visit Website >> mackeeper.com
4	 Bitdefender	<ul style="list-style-type: none"> ✓ Total cybersecurity for macOS ✓ Fast, strong malware scanner ✓ Privacy protection - adware, spyware, trackers 	8.8 GOOD ★★★★★ Visit Website >> bitdefender.com
5	 	<ul style="list-style-type: none"> ✓ High-quality Mac malware scanner ✓ Home Wi-Fi network protection ✓ VPN + safe web browsing 	8.4 GOOD ★★★★★ Visit Website >> mcafee.com
6	 	<ul style="list-style-type: none"> ✓ Complete malware protection package for Mac ✓ Adware, spyware, phishing protection ✓ High-quality malware scanner 	8.2 GOOD ★★★★★ Visit Website >> totalav.com

Best Mac Antivirus Software – 2022

(<https://tinyurl.com/ycxva948>)

Best Android Antivirus Software – 2022

(<https://www.pcmag.com/picks/the-best-mac-antivirus-protection>)

 <p>PC EDITORS' CHOICE ●●●●● 4.5 Outstanding</p> <p>Bitdefender Antivirus for Mac</p> <p>Available at Bitdefender</p> <p>Check Price</p> <p>Bitdefender Antivirus for Mac gets high marks in our own hands-on testing and from independent labs. You can set it, forget it, and have confidence that your Mac is protected.</p> <p>Read Our Bitdefender Antivirus for Mac Review</p>	 <p>PC EDITORS' CHOICE ●●●●● 4.5 Outstanding</p> <p>Kaspersky Internet Security for Mac</p> <p>\$23.99 at Kaspersky</p> <p>See It</p> <p>Kaspersky Internet Security for Mac excels in independent lab tests, and it goes far beyond mere antivirus, offering parental control, protection against network attacks, privacy protection, and many other useful features.</p> <p>Read Our Kaspersky Internet Security for Mac Review</p>	 <p>PC EDITORS' CHOICE ●●●●● 4.5 Outstanding</p> <p>Norton 360 Deluxe for Mac</p> <p>Available at NortonLifeLock</p> <p>Check Price</p> <p>Norton 360 Deluxe delivers lab-certified Mac antivirus protection along with a two-way firewall, a password manager, and a full-powered VPN.</p> <p>Read Our Norton 360 Deluxe for Mac Review</p>	 <p>●●●●○ 4.0 Excellent</p> <p>Webroot SecureAnywhere Antivirus for Mac</p> <p>Available at Webroot</p> <p>Check Price</p> <p>Webroot SecureAnywhere Antivirus is one of the fastest Mac antivirus scanners we've seen, and it provides especially good phishing protection in our testing, but some temporary glitches marred our testing.</p> <p>Read Our Webroot SecureAnywhere Antivirus for Mac Review</p>
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Best iOS Antivirus Apps in 2022

(<https://tinyurl.com/5n9b4nf3>)

[Norton Mobile Security](#) — #1 iOS antivirus protects your device from cyberattacks (plus you can **[try Norton risk-free with its 60-day money-back guarantee](#)**).

[TotalAV Mobile Security](#) — Optimization tools boost iOS performance, but it's more expensive.

[Bitdefender Mobile Security](#) — Includes unlimited VPN good for streaming and browsing, but doesn't offer many other features.

[McAfee Mobile Security](#) — Loaded with features like a media vault, WiFi protection, and safe web browsing, but costs a lot to get full-coverage security.

[Avira Prime Security](#) — Secures your network, but very slow customer support response times

Why Use a Password (PW) Manager?

- 1 in 10 people have had identity stolen
- About 1 in 3 US people have had identity stolen
 - **Account security should be at top of your list**
 - ❖ *More than 76% of adults memorize their passwords*
 - ✓ **Prone to memory loss & cross-account compromises**
 - ❖ *About 9% use sticky notes or notebook*
 - ✓ **Not electronic, not secure or very portable**
 - ❖ *About 6% use text files with URLs, Username & PWs*
 - ✓ **Not secure or accessible everywhere**

Do you want
your Browser
to save your
password?
NO!!!!

Device Security Quiz

- Which of the following are strong password practices?
(Choose all that apply.)
 1. Passwords should contain a mixture of upper- & lower-case letters, numbers, & special characters.
 2. Passwords should have personal meaning to you (e.g., a relative's birthday) so that you can remember them more easily.
 3. You should immediately change your password in the case of a known data breach.
 4. You should store your passwords on paper or in a text document, giving you a backup in the event that you forget them.

Answer: 1 & 3

Benefits of a Password (PW) Manager

A password manager reduces your risk of losing money

A password manager reduces your risk of identity theft

They save you time by automatically logging you into websites

You save time by never having to request a password reset again

They audit your existing passwords and suggest security improvements

Most Important Features of Password Managers

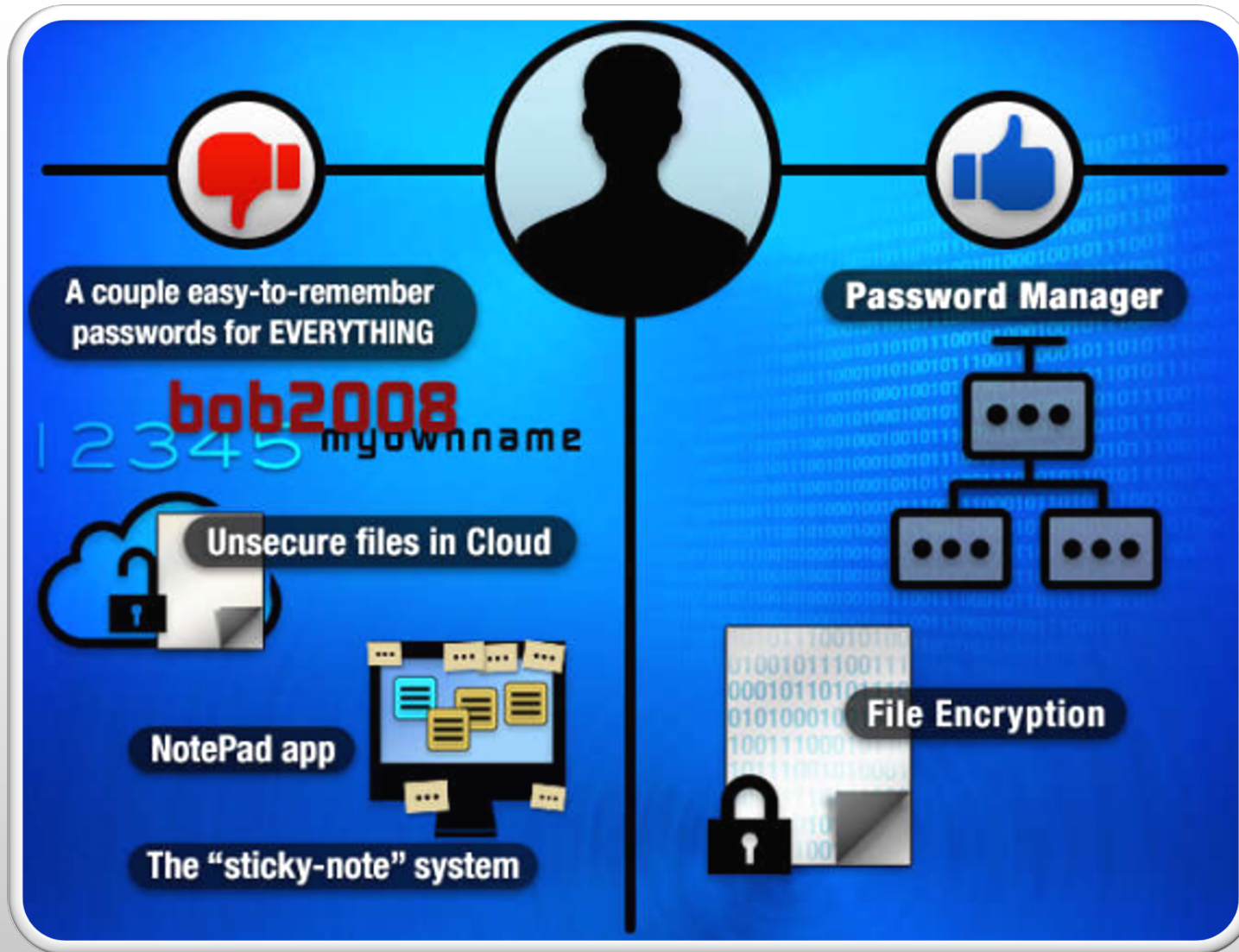
Generating Strong Passwords

Storing the Passwords Safely

Automatically Filling Passwords for You







Accessing your Passwords on your Smartphone

2 Factor Authentication – Extra Security



TOP 5 PASSWORD MANAGERS FOR 2021









































([Top 5 Password Managers - English \(top5-passwordmanagers.com\)](https://top5-passwordmanagers.com/))

Rank	Site	Features	Score	
1	 	<ul style="list-style-type: none"> ✓ Exclusive offer – Get Up to 50% OFF! ✓ Save new passwords as you browse ✓ Log into any website with one click ✓ Generate stronger passwords and store them ✓ Available for Windows, Mac, iOS, and Android, support for all major browsers ✓ One subscription that works across all devices Read Editor's Review	9.8 [®] ★★★★★	VISIT SITE <div>Only \$1.16/month</div>
2		<ul style="list-style-type: none"> ✓ Keep track of all your passwords on all devices ✓ Get security alerts to your devices ✓ Generate unique passwords with 1 click ✓ US Patent for our security architecture – strong encryption available ✓ Premium plan comes with a built-in VPN Read Editor's Review	9.6 [®] ★★★★★	VISIT SITE
3		<ul style="list-style-type: none"> ✓ Generates strong, secure passwords ✓ Store logins, notes and credit cards ✓ Access your passwords from anywhere ✓ 30-day money-back guarantee Read Editor's Review	9.2 [®] ★★★★★	VISIT SITE
4		<ul style="list-style-type: none"> ✓ The world's most-loved password manager. ✓ Log in to sites and fill forms securely with a single click. ✓ Go ahead, forget your passwords. 1Password remembers them. ✓ Try it Free for 14 days Read Editor's Review	8.7 [®] ★★★★★	VISIT SITE
5		<ul style="list-style-type: none"> ✓ Only one password to remember ✓ Generates extra-strong new passwords, whenever you need them ✓ Stores credit card numbers for express checkout ✓ AES256 encryption the world's leading standard also used by the military 	8.5 [®] ★★★★★	VISIT SITE

Top Password Managers for 2022

(<https://tinyurl.com/y2jfa779>)



	 VISIT SITE ➔ Editor's Review	 VISIT SITE ➔ Editor's Review	 VISIT SITE ➔ Editor's Review	 VISIT SITE ➔ Editor's Review	 VISIT SITE ➔ Editor's Review
Editor's Rating	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Best For	General Users	Power Users	First Time Users	Security Novices	Brand Loyalties
Supported Client Software	      	      	      	      	      



●●●●● 4.5 Outstanding

Myki

Visit Site
at MYKI

See It

Myki is the best free password manager for users looking for secure storage, ease of use, quick authentication, and cross-platform syncing. It has trouble with form-filling on mobile devices, however.

[Read Our Myki Review](#)



●●●●● 4.5 Outstanding

LogMeOnce Password Management Suite Premium

Free
at LogMeOnce

See It

The free, skillfully redesigned LogMeOnce Password Management Suite Premium boasts more features than any competitor, free or paid. But do you need all of those features?

[Read Our LogMeOnce Password Management Suite Premium Review](#)



●●●●○ 4.0 Excellent

Bitwarden

Visit Site
at PassHub

See It

The open-source Bitwarden's free tier handles all expected password manager tasks with surprisingly few limitations. Its paid tier adds security, storage, and sharing tools, all at an extremely low price for the category.

[Read Our Bitwarden Review](#)



●●●●○ 3.5 Good

WWPass PassHub

Visit Site
at PassHub

See It

The unusual cloud-based WWPass PassHub works on any platform and is very secure, but it doesn't automatically capture or replay passwords. It's a good password manager for those who value security over convenience.

[Read Our WWPass PassHub Review](#)

BEST FREE PASSWORD MANAGERS FOR 2022

([HTTPS://WWW.PCMAG.COM/ROUNDUP/331555/THE-BEST-FREE-PASSWORD-MANAGERS](https://www.pcmag.com/roundup/331555/the-best-free-password-managers))

Why Backup your Machine?

- **#1 Protection for your data**
- **Hard Disk / SSD on your computer will fail**
 - **Just a matter of time**
- **Disaster may cause loss of computer / data**
 - **Fire, Flood, Tornado, etc.**
- **Theft**
 - **House break in – stolen computer**
- **Cybersecurity**
 - **Ransomware / malware attack – encrypts / infects files**
- **User errors**
 - **Deletes wrong files**

The Ideal Backup Checklist

- **Backup Frequently**
- **Redundancy - have multiple backups**
 - **Local Backup – External USB Local Drive**
 - **Online Backup – a Cloud service (BackBlaze)**
 - **Off-Site Backup – Store backup USB / disk at a Bank**
- **The 3-2-1 Rule (no single point failure)**
 - **3 copies of data**
 - **2 different media formats (e.g., USB & Cloud)**
 - **1 stored off-site**

Three Options for Local External Backup

1. USB Solid State Device

- **Fast, small storage space, expensive**



2. USB Hard Drives - **recommended**

- **Slower, lots of space – e.g., 4-10GB**



3. USB Flash Drives

- **Cheap, Simple, small storage space**



Phone Scams

(<https://www.consumer.ftc.gov/articles/phone-scams#how%20to%20recognize>)

People lose lots of money to phone scams

Scammers have figured out ways to cheat you out of your money

They will try to get your \$\$ or personal information for Identity Theft – Don't give them anything!

Recognizing a Phone Scam

Caller might say – “You have been selected ...”

Scammers might pretend to be Law Officers

- They say you’ll be arrested, fined or deported or charity calls
- Real Law Enforcement won’t call you

You don’t need to decide now if pressured

There is NEVER a good reason to send CASH

- Gift card, money transfer, check – No-No-No!

Government agencies will not call you

- Social Security, IRS, etc.

Companies will not call you

- Microsoft, Apple, Chase Bank, etc.

Examples of Common Phone Scams

Imposter scams

- Social security Admin, IRS, Problem with computer

Debt relief & credit repair scams

- Lower you credit card interest rate

Business & investment scams

- Guarantee big profits

Charity scams

Extended car warranties

Prize & Lottery scams

Loan or Free Trial scams

Travel scams & timeshare scams

- Low-cost vacations
- Offer to sell your timeshare

How to Stop Call Scammers

Hang up

Consider call blocking

Don't trust your caller ID

- **Scammers can make any name or # show up**
- **Looks like a local #**

iPhone Call Blocking Apps

(<https://medium.com/macoclock/12-best-call-blockers-for-iphone-ef1e913e7269>)

[REKK — Call Blocker](#)

[RoboKiller: Block Spam Calls](#)

[Call Control: #1 Call Blocker](#)

[Call Blocker: Block spam calls](#)

[AT&T Call Protect](#)

[Hiya: Spam Phone Call Blocker](#)

[Truecaller](#)

[Mr. Number Lookup & Call Block](#)

Note: Most are FREE

Android Call Blocking Apps

(<https://techviral.net/best-calls-blocker-apps-for-android-smartphones>)

- [Call Blocker- Blacklist](#)
 - [Mr. Number](#)
 - [Avast Mobile Security & Antivirus](#)
 - [Showcaller – Caller ID & Block](#)
 - [Call Blocker](#)
 - [Hiya](#)
 - [Truecaller](#)
-
- **Note: Most are FREE**

Grand Computers Cybersecurity Initiative



- **Planning meetings started in winter 2018**
 - **What could the club do to help our members?**
 - **Ransomware, Phishing, Malware increasing all around us**
 - **Ray Fagan, Leon Chapman, Maria Frasca, Gloria Young, Dan Wallen & Joe Parla**
- **Develop Cybersecurity courses 1st for Windows 10 & MacOS**
- **Educate Tech Helpers 1st – Nov & Dec 2019 – Ray & Leon**
- **Offer classes to our members**
 - **Classes starting in Winter 2020**
 - **Classes will be two 2-hr sessions – Lecture + Hands-on**
 - ❖ *Hands-on for students to bring devices for hardening – several Tech Helpers to assist students*

GCC Cybersecurity Classes

- **Cybersecurity Courses for PCs**

- ❖ *Introduction to Cybersecurity Basics*
- ❖ *Windows 10 Hardening - Set up and Configure*
- ❖ *Windows 10 Backup - Restoration Points and Data Backup*
- ❖ *Window 10 Edge Browser Hardening*
- ❖ *Google Chrome Browser Hardening*

- **Cybersecurity Courses for Macs**

- ❖ *MacOS Hardening – Set up and Configure*
- ❖ *Safari Browser Hardening & Time Machine backup*

Summary - Priority Actions for Users

1. Always have backups of your system / files
2. Use an antivirus / malware program
3. Use a Password Manager
 - Generates complex passwords automatically
 - Easy to change and remembers passwords
 - Change passwords frequently
4. Always update OS to latest version
5. Harden your device thru OS settings
 - Firewall
 - Limit app access to location, contacts, photos, etc.
6. Harden your Browser thru settings
7. Install Call / Spam blocker Apps on mobile phones

Questions

- **What questions do you have for me?**

