

Secondary Education: Measuring Secondary Uses of 2FA Phone Numbers

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Federal Trade Commission



The views expressed are not necessarily those of the Commission or any individual Commissioner.

2FA!

... & Something Else?



yay!



hey!

wait.

what?

why?



Could it be?



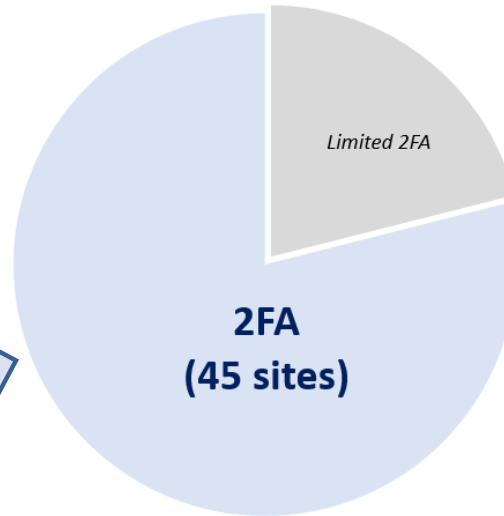
Site Selection

Top 500 Sites

177 sites

57 offered 2FA

Remaining sites:
Did not offer accounts
Redirected
Only third-party login
etc.



Of the 45 ...

32 sites
2FA by phone
(and other)



Account Creation and 2FA Enrollment

32 sites
2FA by phone
(and other)

- Case 1 (24 sites)
- Case 2 (4 sites)
- Case 3 (4 sites)

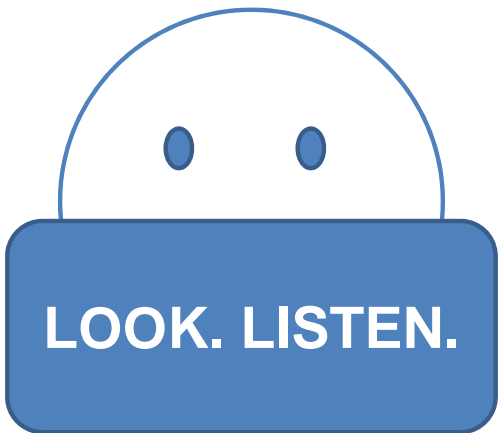


2FA Phones

**Third-Party Sharing
at 2FA Enrollment?**



Non-2FA Activity?



Third-Party Sharing at 2FA Enrollment?



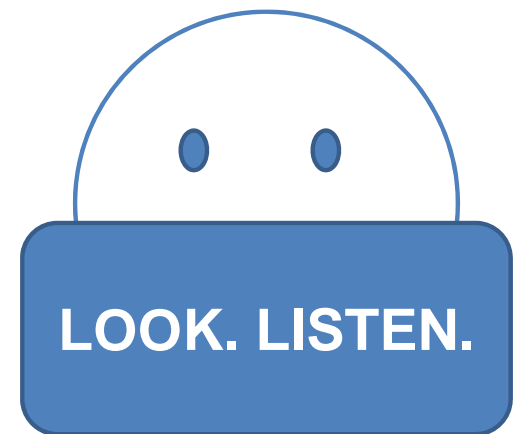
- No evidence of transmission
- First-party with Base64 encoding



Non-2FA Activity?

- No communication referenced the website associated with a 2FA phone
- 900 calls
 - 44 voicemail
- 58 text messages

Non-2FA Activity?



Future Work

- Go beyond:
 - Other secondary uses – e.g., targeted uses
 - Monitor a larger number of accounts with greater user activity over a longer period of time – paid accounts, non-English sites
- Explore:
 - Mobile authentication applications
 - User attitudes, expectations, and behavior



Thank You!

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Who Are You?! Adventures in Authentication Workshop (WAY 2020)

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