Microsoft

Azure AD Security Recommendations and the Customer Stories That Prove It

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Who am I?

Identity Product Group,

Customer Experience (CXP) Team

Premier Field Engineer

SANS STI Student

How Many People have Azure Active Directory?

Agenda

Protect Privileged Accounts

Enable Password Hash Sync (PHS)

Update Your Password Policy

Block Legacy Authentication

Enroll End Users for MFA

Recommendation 1

MFA your Privileged Accounts!

I shouldn’t have to say this!!

Admin Accounts MFA Sept 2017- 0.7%

Admin Accounts MFA Sept 2018- 1.7%

Customer Story 1

Tech Company

- Global footprint
- 100k+ users

Global admin phished

- No MFA

Changes made to O365 mailboxes for key executives

- Was discovered when a user reported “weirdness”

MFA Privileged Accounts Deployment Tips

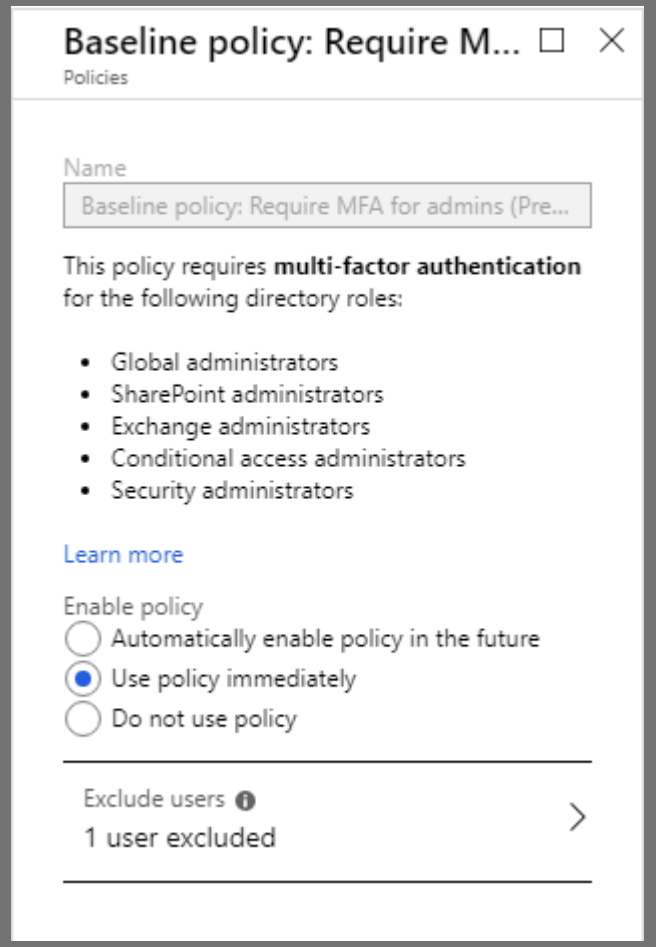
Good: Turn MFA on!

Better: Baseline Policy for Admins

- Learn more at: https://aka.ms/aadbaseline

Best: Azure AD PIM

- Admin access requires elevation + MFA
- Can buy P2 license for just your admins
- https://aka.ms/deploymentplans



Agenda

Protect Privileged Accounts

Enable Password Hash Sync (PHS)

Update Your Password Policy

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Enroll End Users for MFA

Recommendation 2

Turn on Azure AD Password Hash Sync

http://aka.ms/auth-options

Leaked Credentials

- Dark Web, Law Enforcement, Security Researchers

When something catastrophic happens

- WannaCry, NotPetya

Customer Story 2

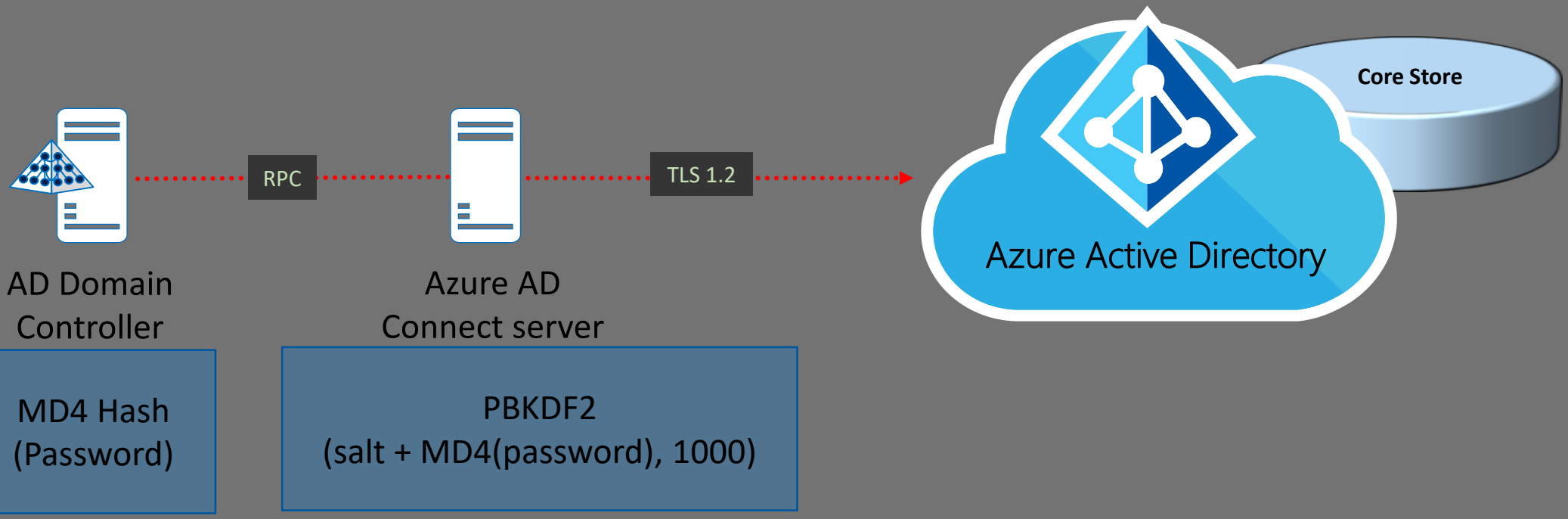
The Untold Story Of Notpeya, The Most Devasting Cyberattack In History

https://www.wired.com/story/notpetya-cyberattack-ukraine-russia-code-crashed-the-world/

Password Hash Sync Deployment Tips

Understand how PHS works

http://aka.ms/aadphs



Treat Azure AD Connect like a Domain Controller!

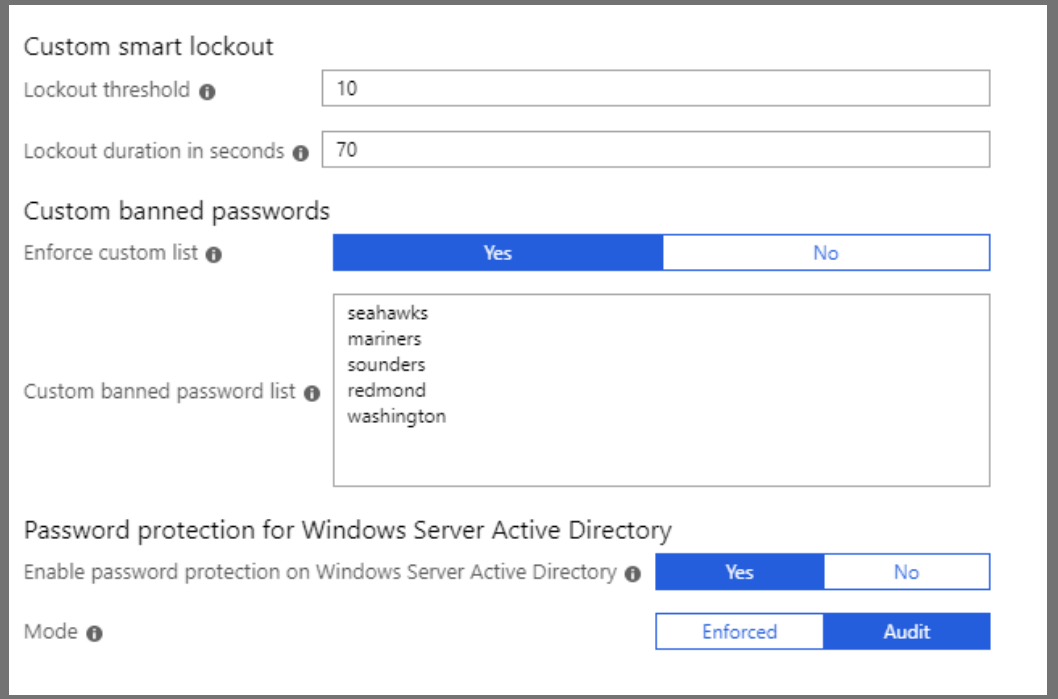
Agenda

Protect Privileged Accounts
Enable Password Hash Sync (PHS)
Update Your Password Policy
Block Legacy Authentication
Enroll End Users for MFA

Recommendation 3

Modernize your password policy

- People choose “strong” but easily guessable passwords.
  - April2019! Or Summer2019!
  - https://aka.ms/passwordguidance
  - NIST 800-63B
- Implement Azure AD Banned Password Policy
  - Applies to on-prem AD as well!
  - https://aka.ms/deploypasswordprotection



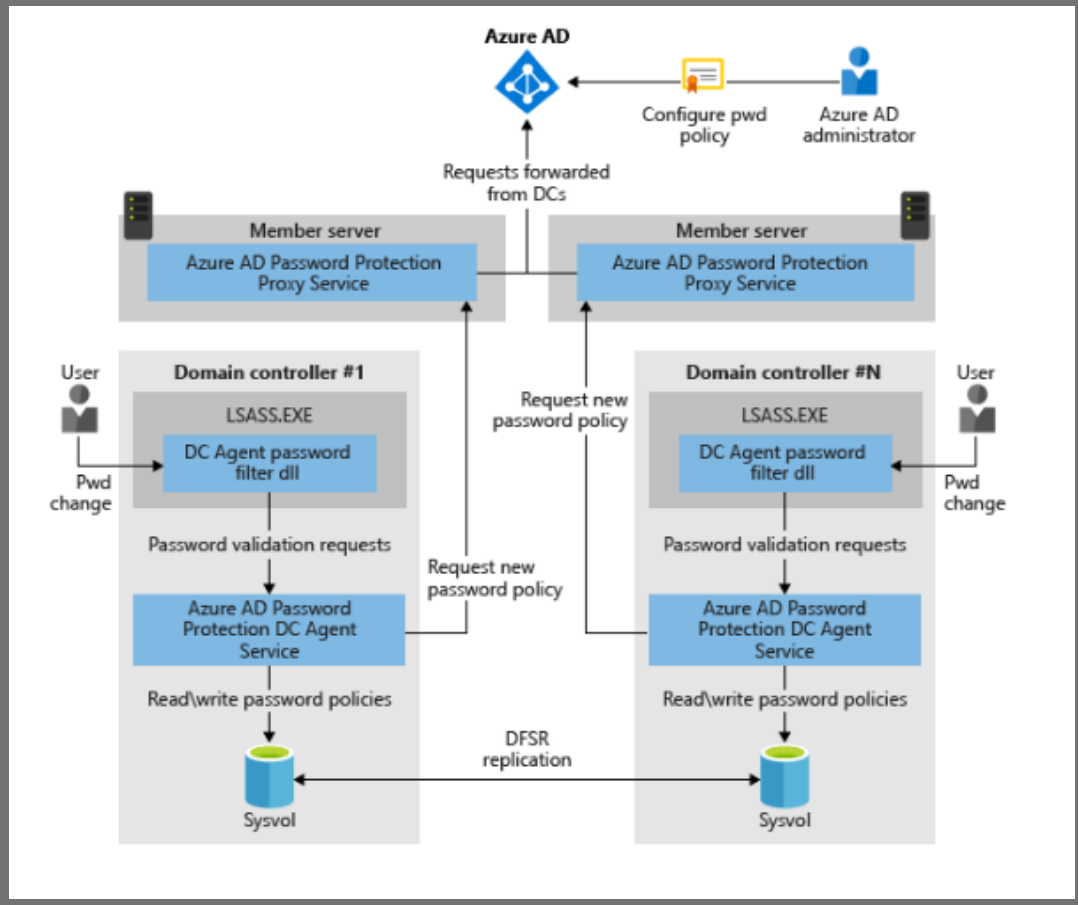
Azure AD Banned Password

Requirements

- Azure AD P1 License
- DCs need to be 2012 or later
- No Domain or Forest functional level
- Sysvol should be at DFSR (aka.ms/dfsrmig)

How passwords are scored

- https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-password-ban-bad



Customer Story 3 Part 1

Media Company

- Global footprint
- 50k+ users

Deployed Azure AD Banned Password

- Was blocking about 20% of passwords
- Help desk calls “Why can’t I set my password”

Management instructed turn off blocking banned passwords…

Recommendation 4

Turn off Legacy Authentication

- 200k accounts compromised in Aug 2018 due to password spray
- Nearly 100% of password spray attacks we see are from legacy authentication
- Blocking legacy auth reduces compromise rate by 66%
- https://aka.ms/PasswordSprayBestPractices

Legacy Authentication, Examples

Clients that use legacy authentication

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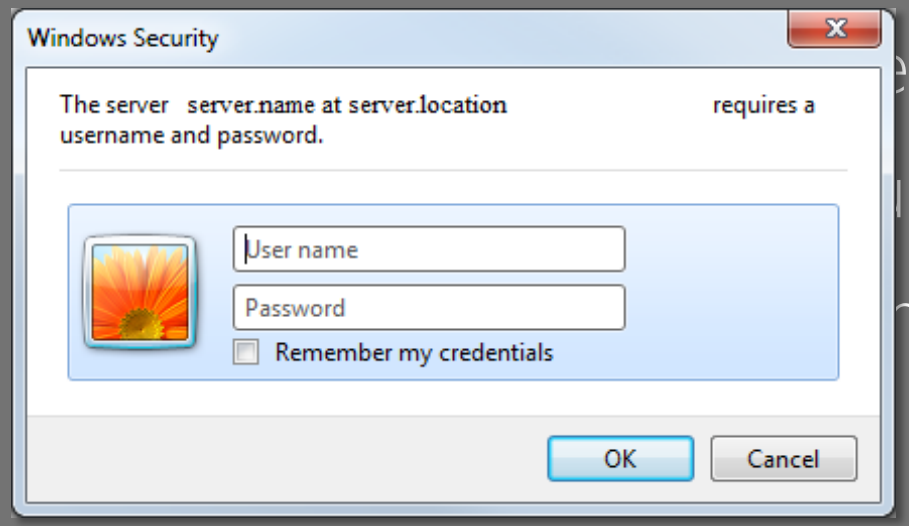
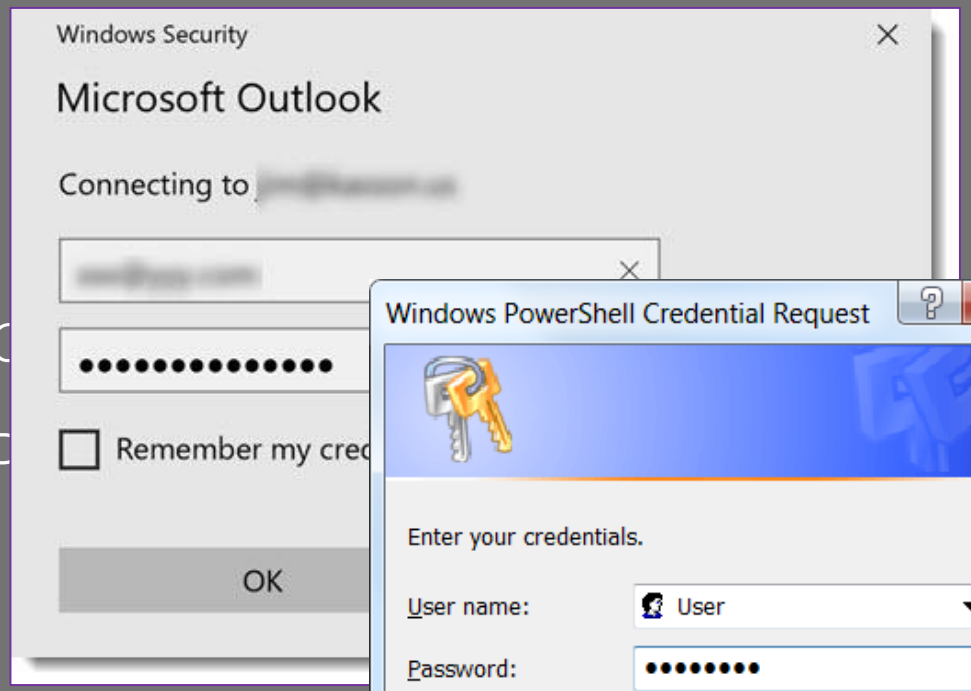




Updated Azure AD modules at https://docs.microsoft.com/en-us/office365/enterprise/powershell/connect-to-office-365-powershell

Updated O365 modules at https://docs.microsoft.com/en-us/office365/enterprise/powershell/manage-office-365-with-office-365-powershell

Customer Story 3 Part 2

Media Company

- Global footprint
- 50k+ users

Turned off POP3

- Didn’t turn off IMAP4, or other legacy protocols…
- Required client app updates and policy of supported clients

Recommendation 5

Enable MFA for end users

- You can do it now or after the compromise

Azure MFA Authenticator app is preferred method

- Best end user experience
- Reduces MFA prompts

Customer Story 3 Part 3

Media Company

- Global footprint
- 50k+ users

Started MFA enrollment, slowly

- Resistance from end users
- Lack of policy stopped enrollment…

Customer Story 3 Part 4

150+ users successfully password spray

- Weak passwords were used
- Legacy protocols IMAP4 and SMTP initial foothold
- Other apps then accessed with no MFA required

Modernizing Your Password Policy Deployment Tips

Have conversation with policy makers

- Help them understand the **NEW** recommendations
- https://aka.ms/passwordguidance
- NIST 800-63B

Customize Banned Password List

Deploy in Audit mode first

- Use this data to go back to policy makers

Blocking Legacy Auth Deployment Tips

Determine Legacy Auth Usage

- https://techcommunity.microsoft.com/t5/Azure-Active-Directory-Identity/Azure-AD-Mailbag-Discovering-and-blocking-legacy-authentication/ba-p/369725

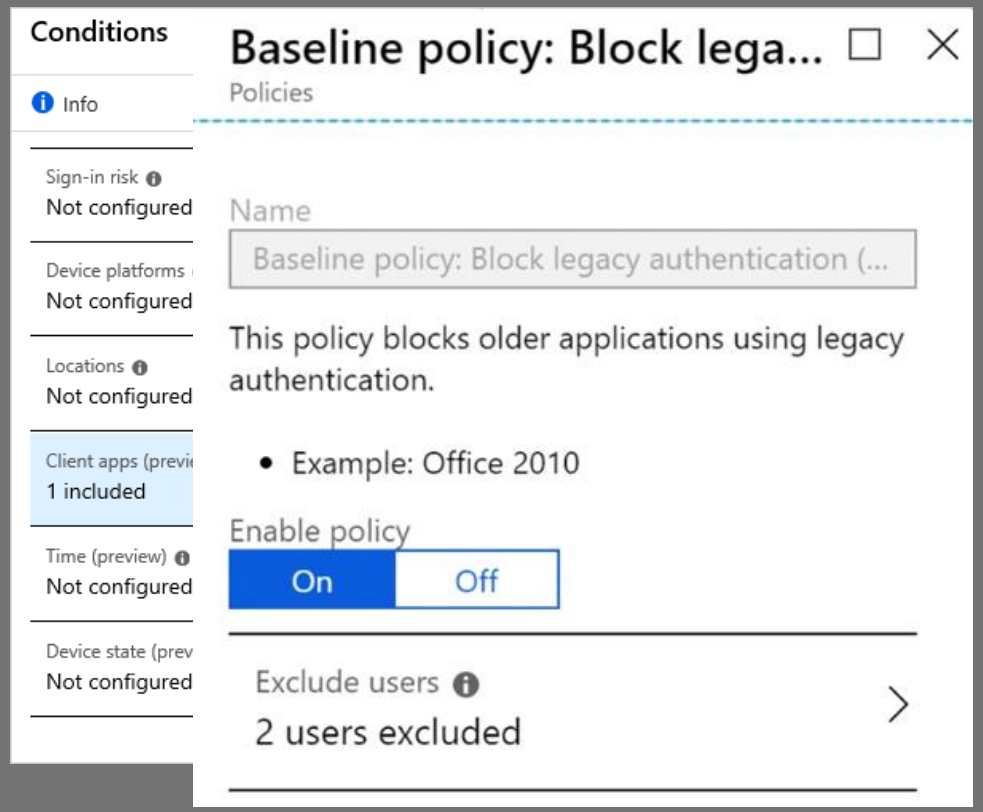
Block those that are NOT using FIRST

- Block Today with Conditional Access
- Requires Azure AD P1

Update Clients

Coming Soon! Baseline: Block Legacy Auth

- Available to all tenants
- Exclude specific users or service accounts
- Does not block Exchange ActiveSync



Enable MFA for End Users Deployment Tips

Leverage the Azure AD deployment plans

- https://aka.ms/deploymentplans

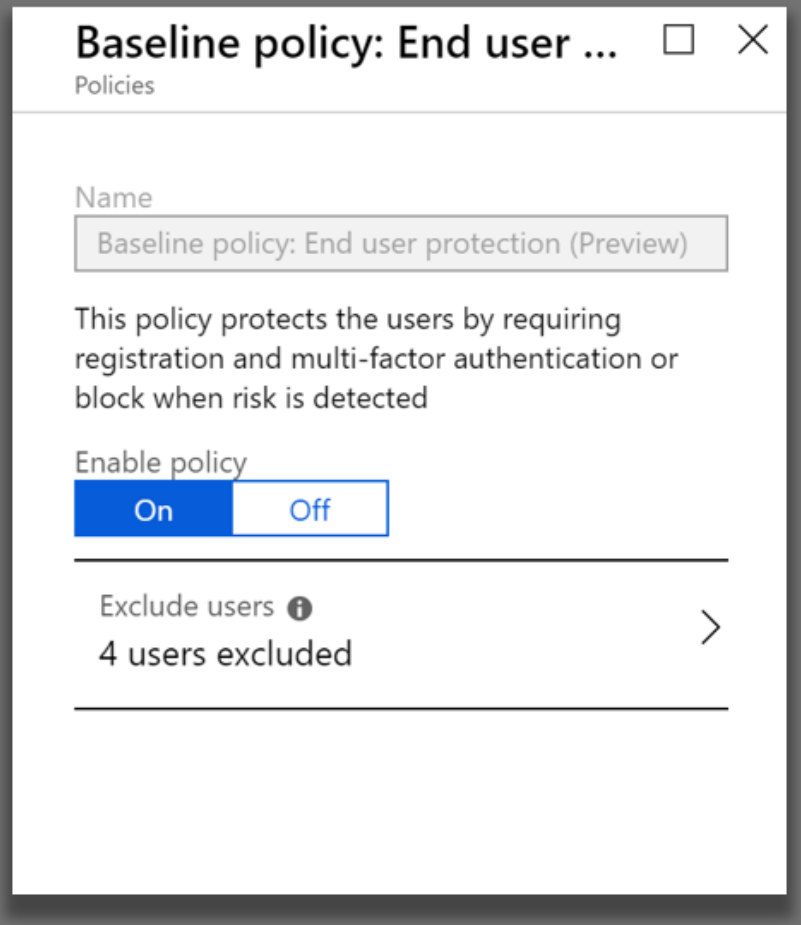
Don't block deployment on the last 5%

Pair with Self Service Password Reset registration

Coming Soon! Baseline Policy End User Protection

- Available to all tenants
- Prompt for MFA only during risky sign-ins
- Requires users to register for MFA within 14 days

Deploy the Azure MFA Authenticator App



Recommendation Recap

Protect your admins!

Turn on Password Hash Sync

Update Your Password Policy & use Azure AD Banned Passwords

Block Legacy Authentication

Enable MFA for End Users

https://aka.ms/securitysteps

Questions

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