Microsoft

Top 5 Things To Know About Azure Active Directory Logs

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Who am I?

Identity Product Group, CXP Team

Premier Field Engineer

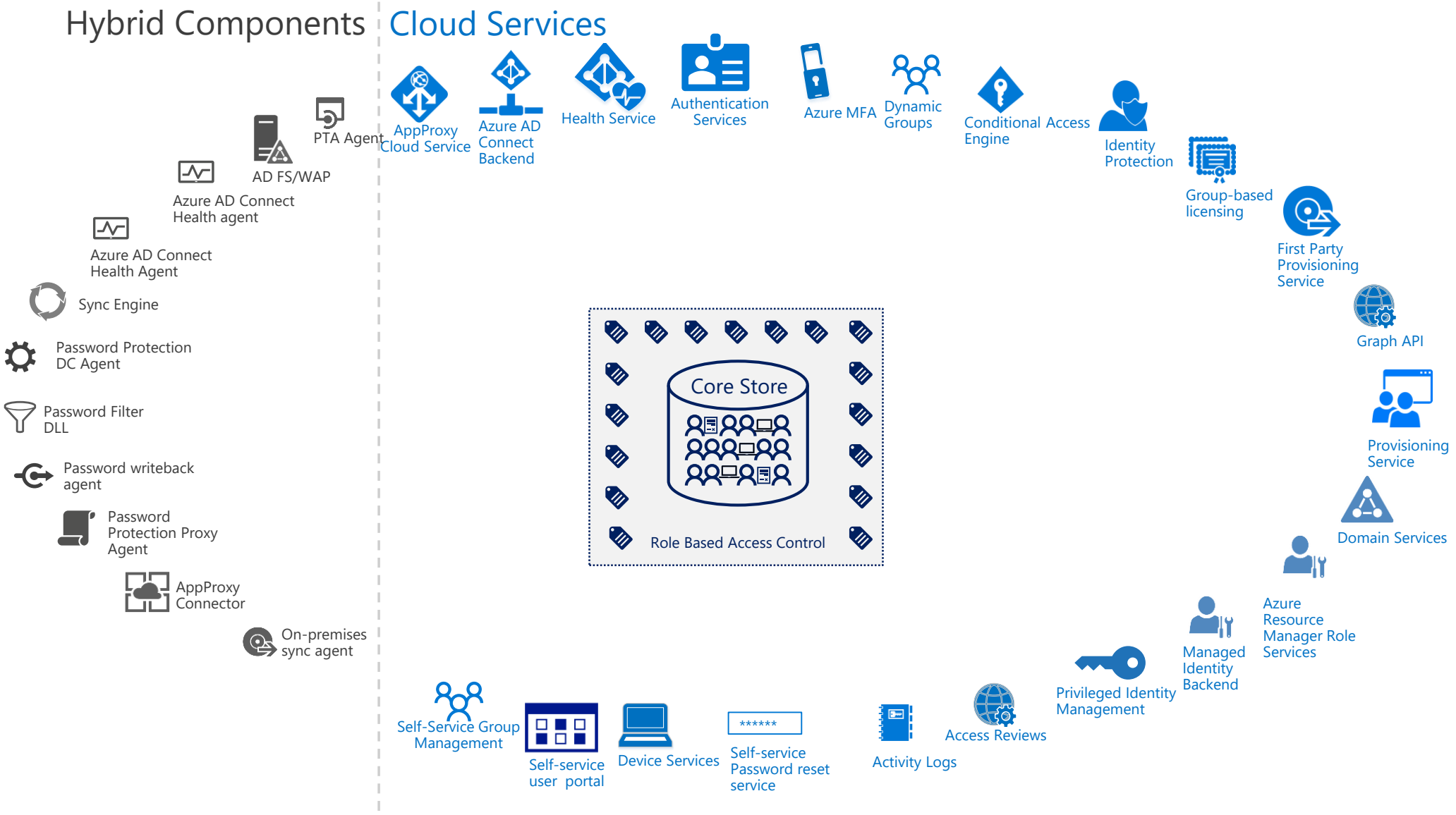
SANS STI Student

GWAPT, GCIA, GCIH, GCWN, GMOB

How Many People have Azure Active Directory?

Azure AD Components

Under the hood: Multiple backend services and hybrid components



Agenda

What Are the Azure AD Logs

Integration with SIEM Tools

Key Events To Look For

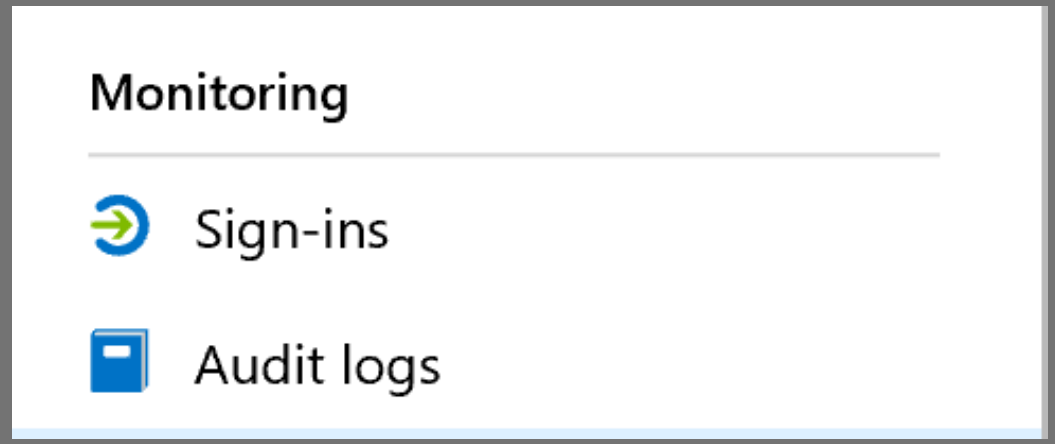
Azure AD Logs

Sign-in logs

Interactive logins

Audit logs

Everything else



Azure AD Sign-in Logs

Application sign-in Success/Failure

User display name and UPN

Session conditions: location, IP, Date/Time

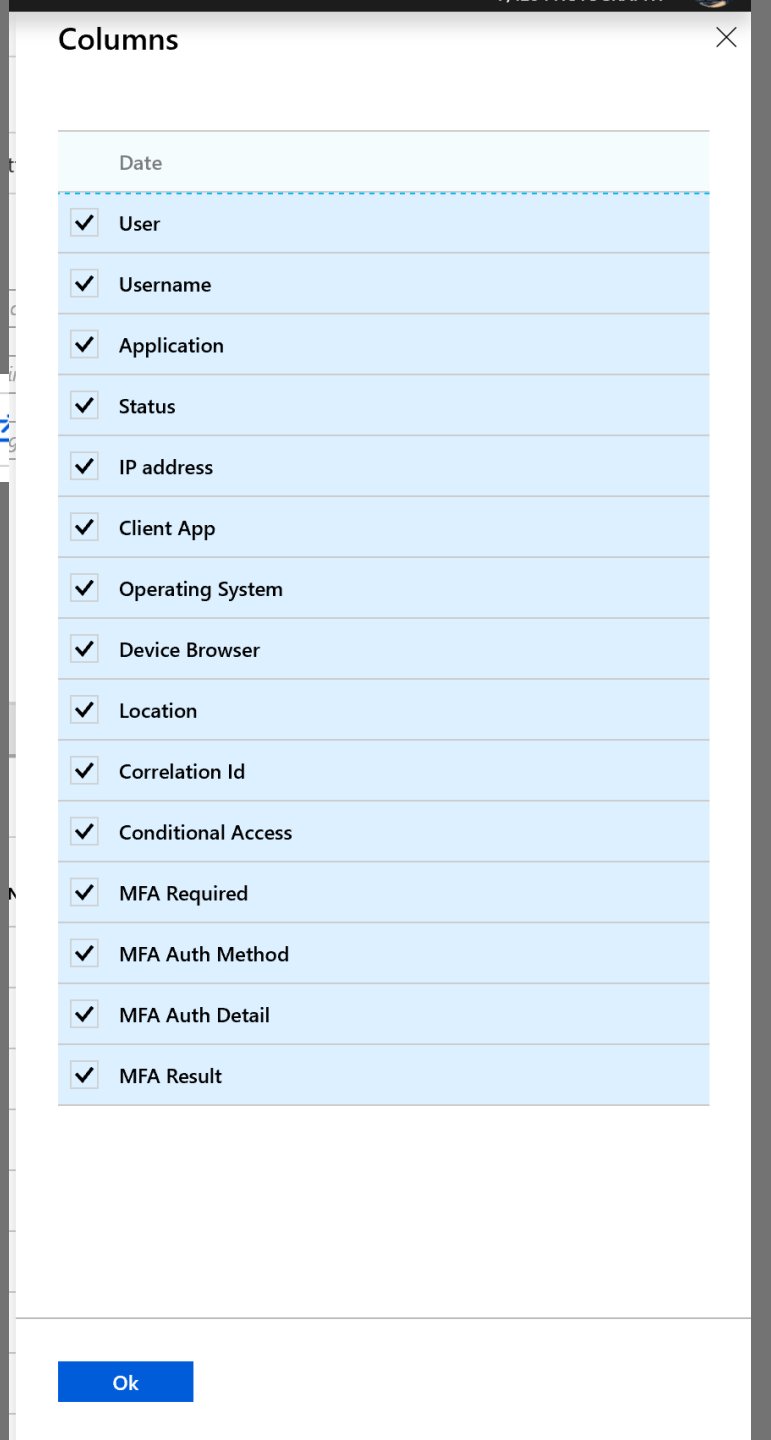
MFA info: Required, Method, Result

Client conditions: Device ID, browser, OS

Conditional Access: Policy, Controls, Result

Correlation ID!

Latency is 5 to 10 mins



Azure AD Sign-in Logs Key Things To Know

Refresh Token Sign-ins: Only initial authentication is in the reports…today

Only successful federated logins are displayed

Failure events are on the federated IDP

Azure AD Audit Logs

Actions performed that change the state of a resource, e.g.

Password Reset

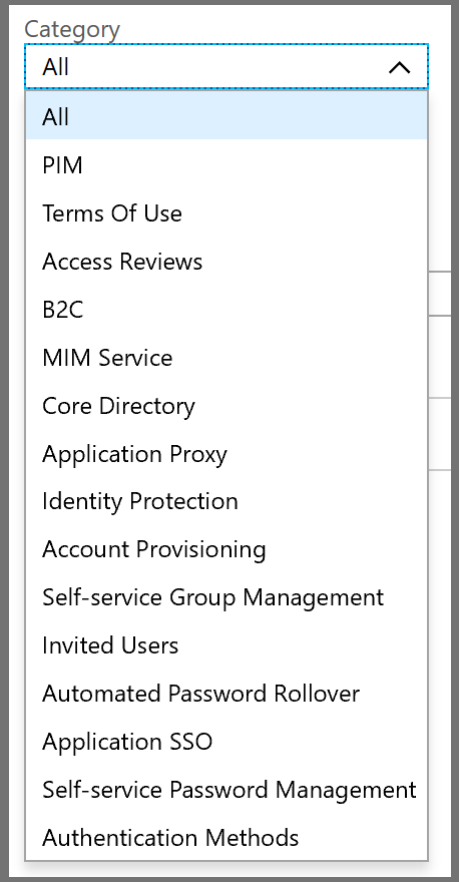
Privileged Identity Management (PIM) Elevations

Terms of Use Acceptance

B2B Redemptions

SaaS App Configuration/Provisioning

Latency is 10 to 15 mins



Azure AD Security Logs

Users flagged for risk

High, Medium, Low

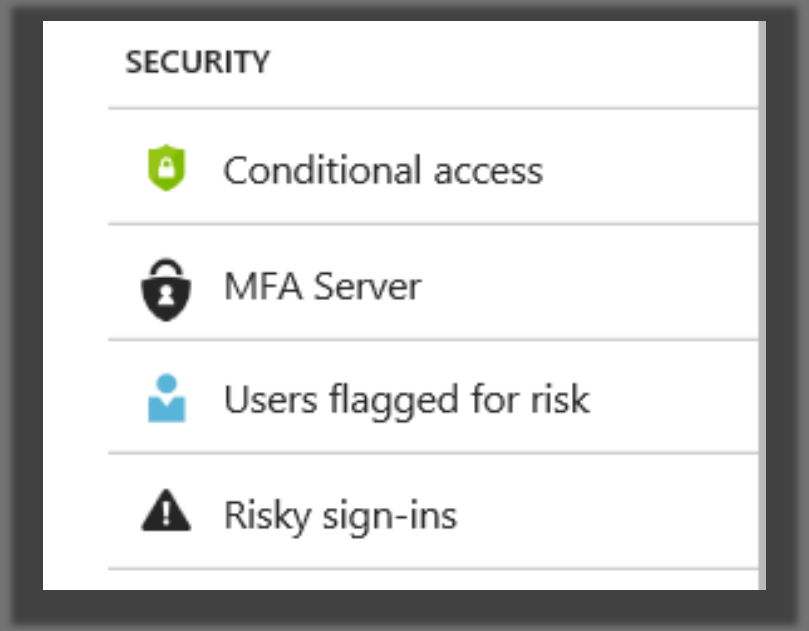
Risk events/Risky sign-ins

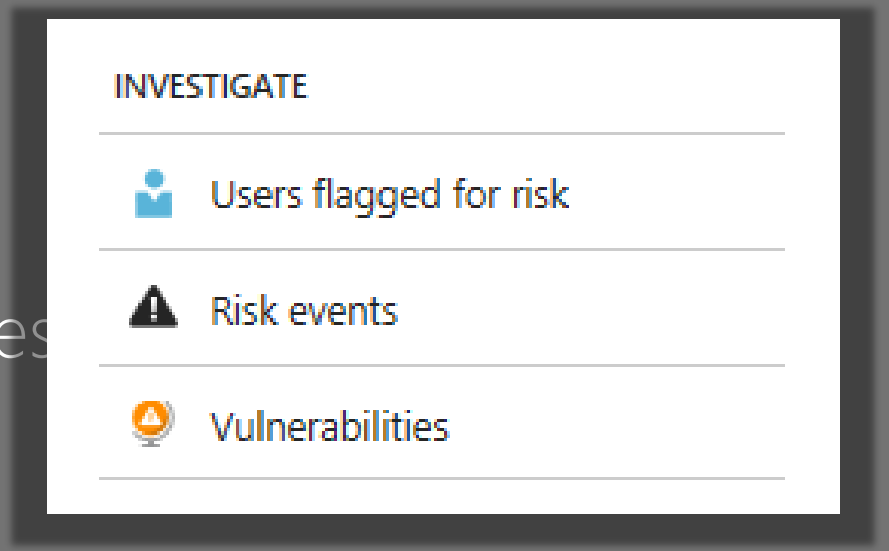
leaked credentials, anonymous IPs,

impossible travel, unfamiliar locations

Vulnerabilities

Users without MFA, Unused Admin Privileges





Who can access logs in Azure AD

Global Administrator

Security Administrator

Security Reader

Reports Reader

No difference in data scope between roles

Users can access their own sign-in logs

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Back in the day…Sept 2018 and earlier

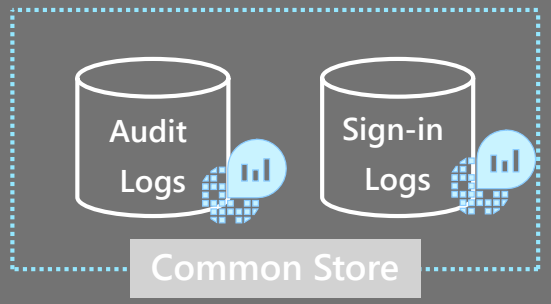
The only way to programmatically access Azure AD Logs was using GraphAPI calls

Problems include but not limited to..

- Multiple end points to enumerate for different log types
- Determining last synced event, de-duplicating events
- Using a service principal to auth with a secret stored in the script…

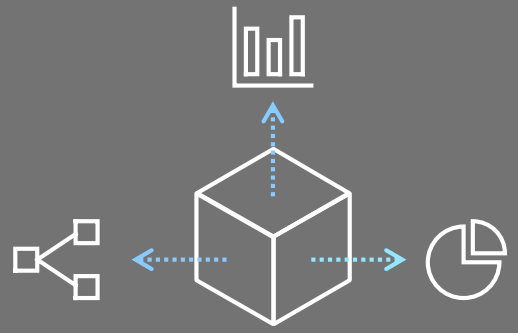
Azure Monitor

Full observability for your Azure AD Infrastructure



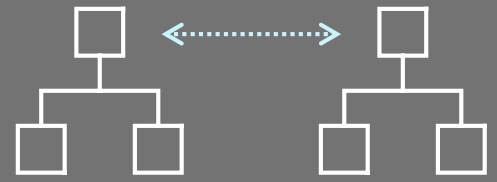
Unified Monitoring

A common platform for all Azure AD logs



Analyze

Rich Insights, advanced analytics and smart machine learning powered by Log Analytics



Workflow Integrations

Rich ecosystem of popular issue management, SIEM, and ITSM tools

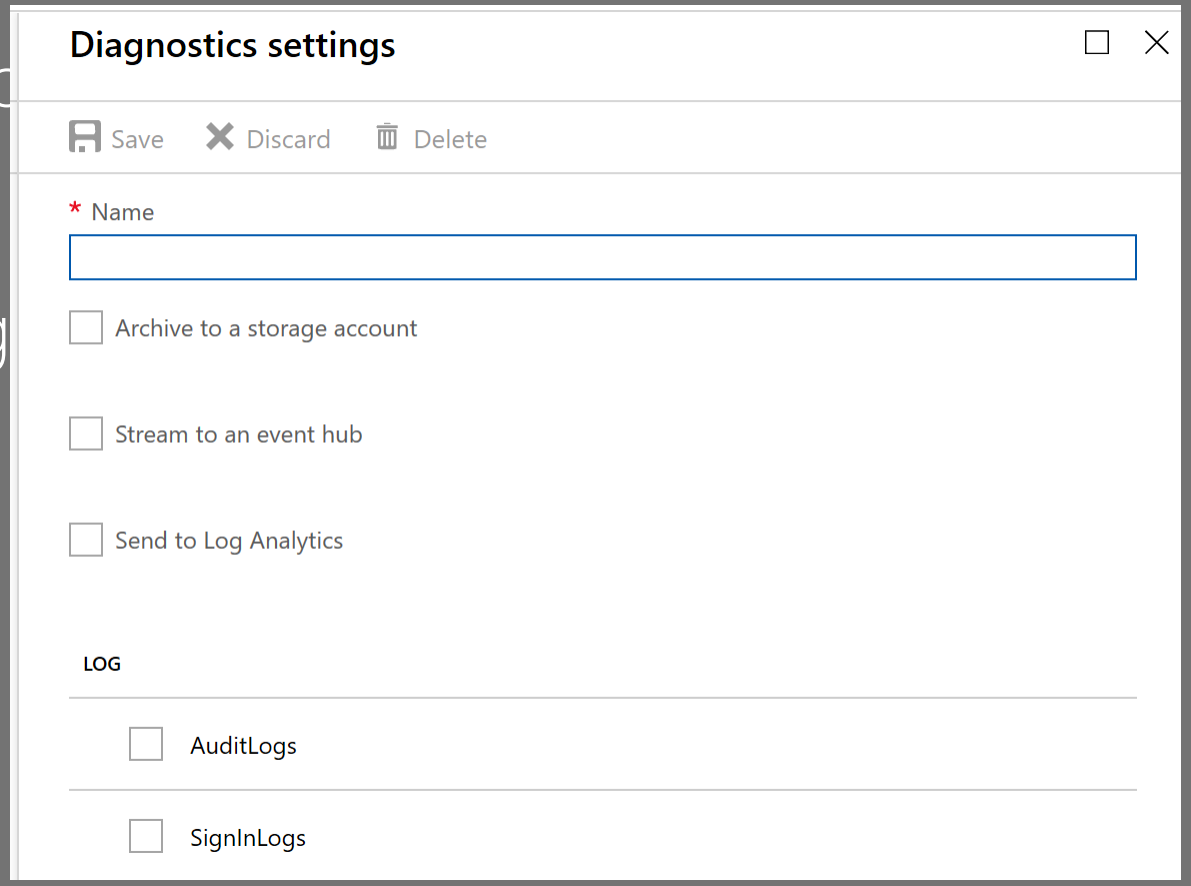
Getting Started with SIEM Integration

First click on Export Settings, new Diagnc

Give it a name, click “Stream to an Event

Optionally select storage account or Log

Select the Logs



SIEMs With Azure Monitor Integration

Many SIEMs have pre-built integration into Azure Monitor

- Splunk (docs)
- Sumo Logic (docs)
- IBM Qradar 7.3.0 (Coming Soon)
- Arcsight (Coming Soon)

Don’t see your SIEM? Tell them you want this!

What About Security Events?

These come from the Intelligent Security Graph

and lots of other security alerts

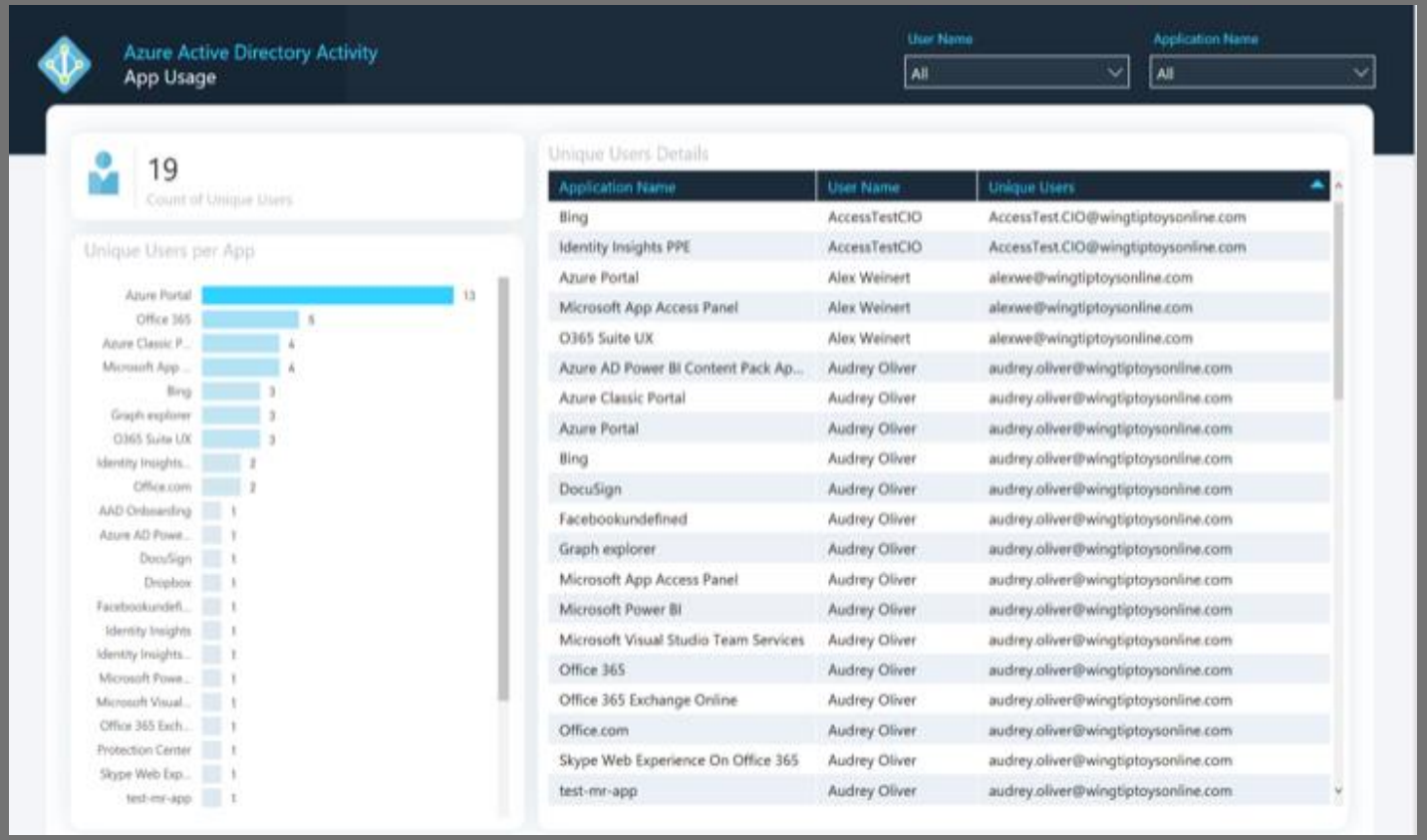
http://aka.ms/GraphSecuritySIEM

Setup Azure Monitor to send alerts to the same Event Hub

Quick Win

Azure AD Power BI Content Pack

[Download]



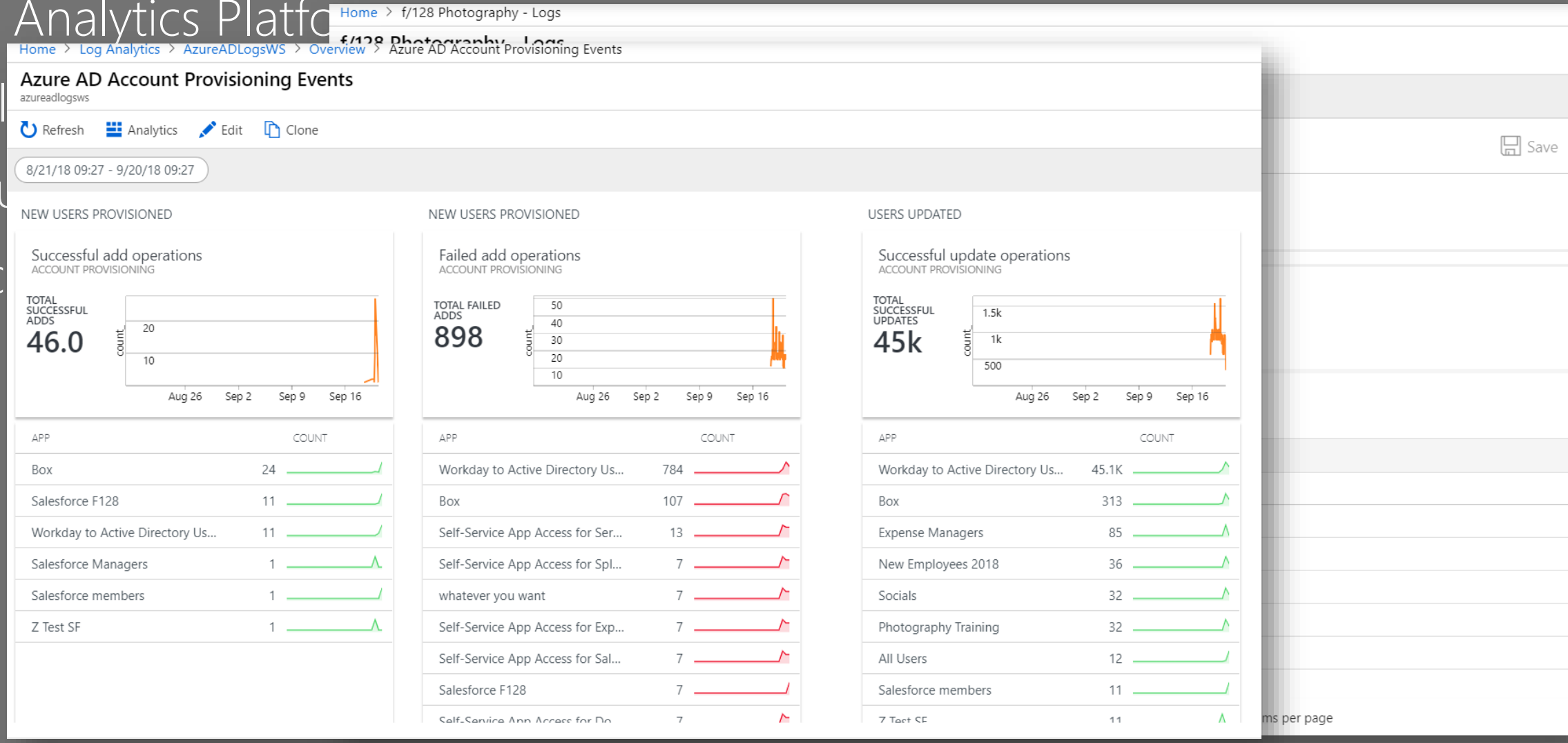
Log Analytics

Central Analytics Platfo

Can util

Run you

Setup c



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Legacy Authentication, Why You Should Care

200k accounts compromised in Aug 2018 due to password spray

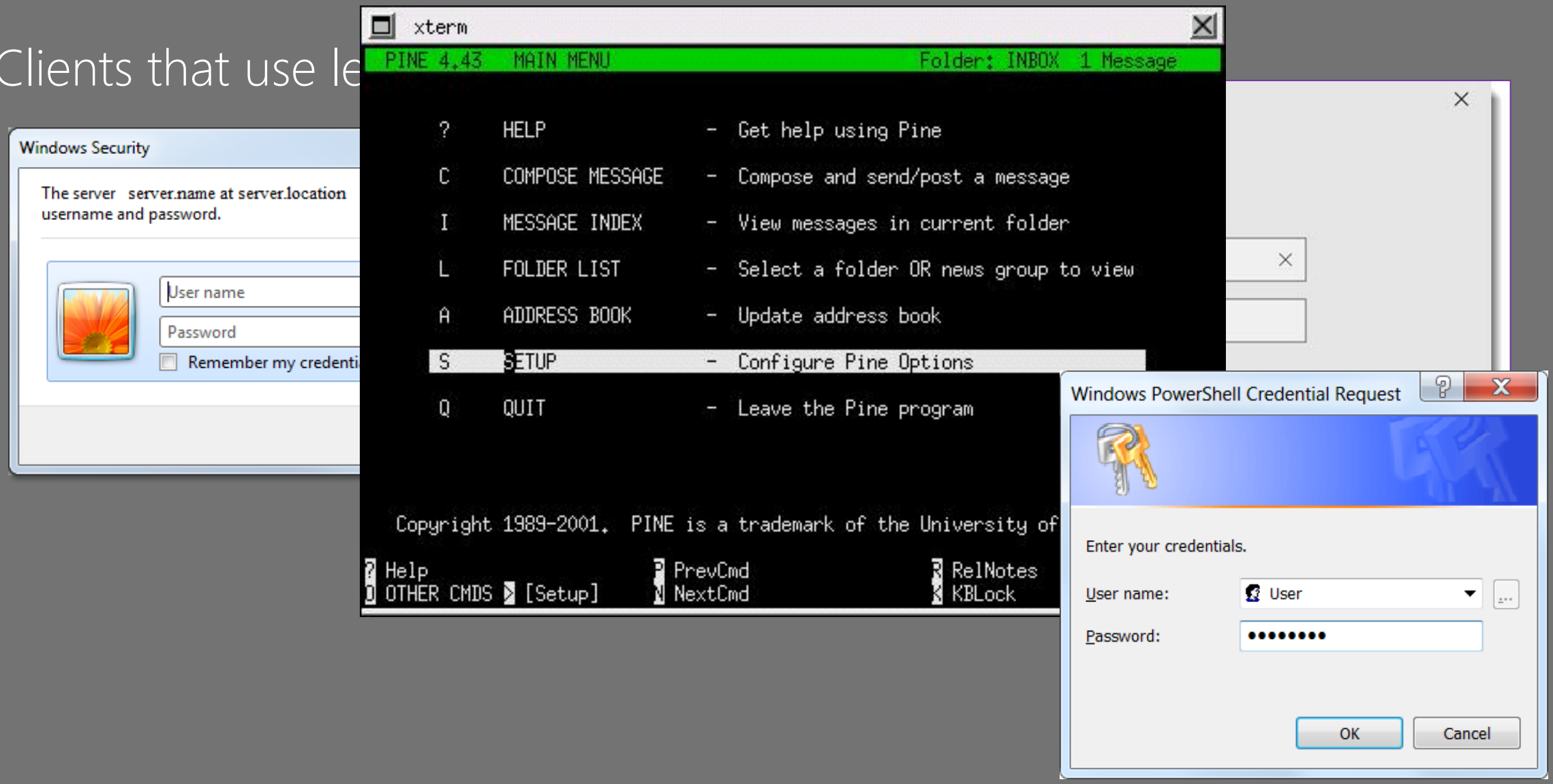
Nearly 100% of password spray attacks we see are from legacy authentication

Blocking legacy auth reduces compromise rate by 66%

https://aka.ms/PasswordSprayBestPractices

Legacy Authentication, Examples

Clients that use le

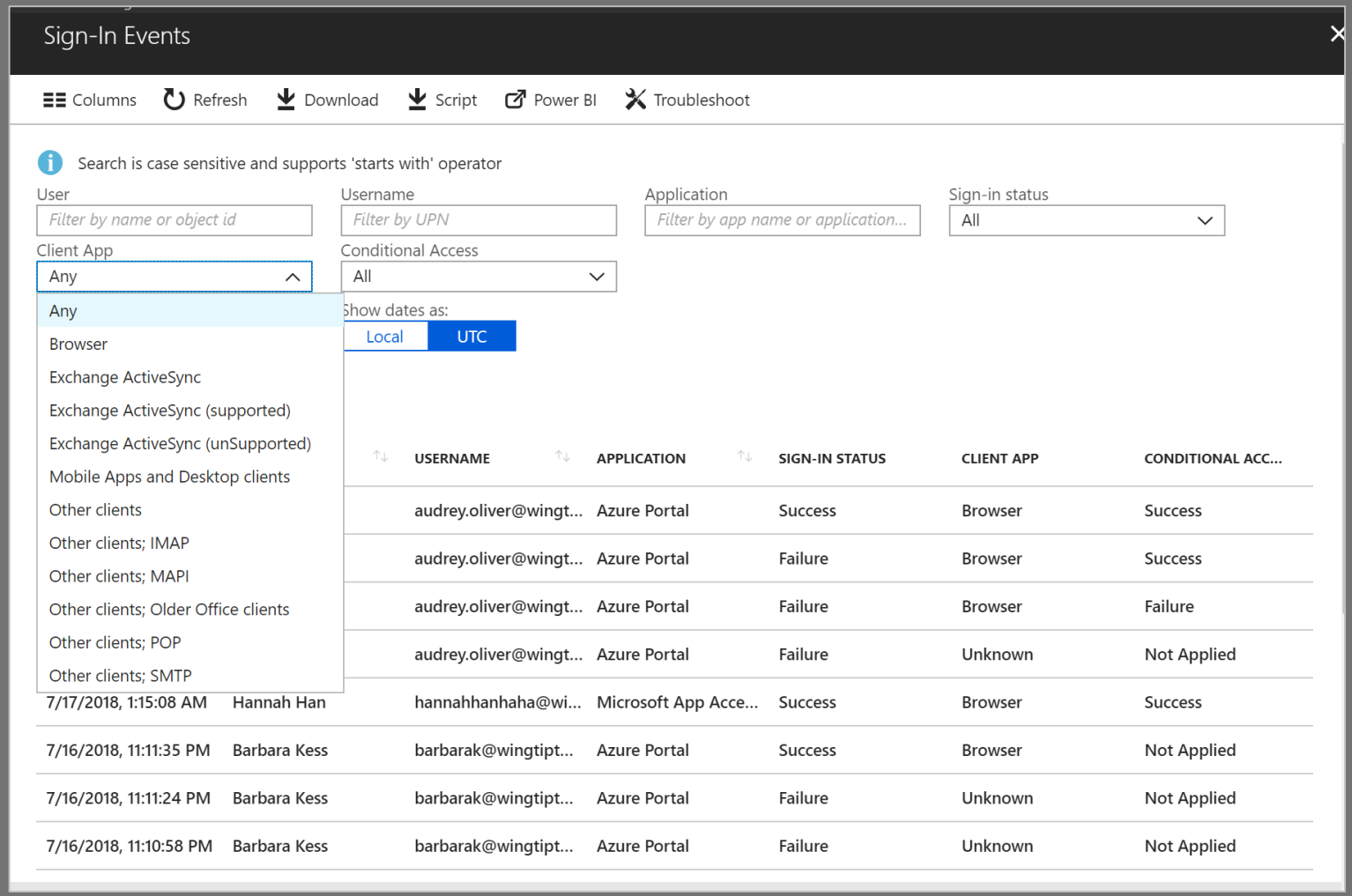


Finding Legacy Authentication In Your Environment

Sign In Logs to examine usage

POP, IMAP, MAPI, SMTP and ActiveSync go to EXO

"Other Clients" shows SharePoint and EWS



Key Security Events To Take Action On

Any High Risk Event

- Leaked Credentials
- Users at High Risk

Medium Risk Events

- Tor Browser Logins
- Unfamiliar locations
- Suspicious IP

Key Audit Events To Investigate

Promotion of accounts to Admin Accounts

Creation of accounts that look like service accounts/high-value employees

Updates to ServicePrincipals

Consent grants made by admins!

Removal of MFA requirements

Disablement or change of Audit configuration

Key O365 Events To Investigate

Creation of mail forwarding rules in a mailbox or transport rule to an external domain.

Addition of mail forward permissions or mailbox delegates

Changes to external sharing policies

More O365 events here

Questions

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