Microsoft

Buzzword Literacy - Zero Trust Network Architecture

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About me :

▪ Chief Cybersecurity Officer	**Microsoft Asia**
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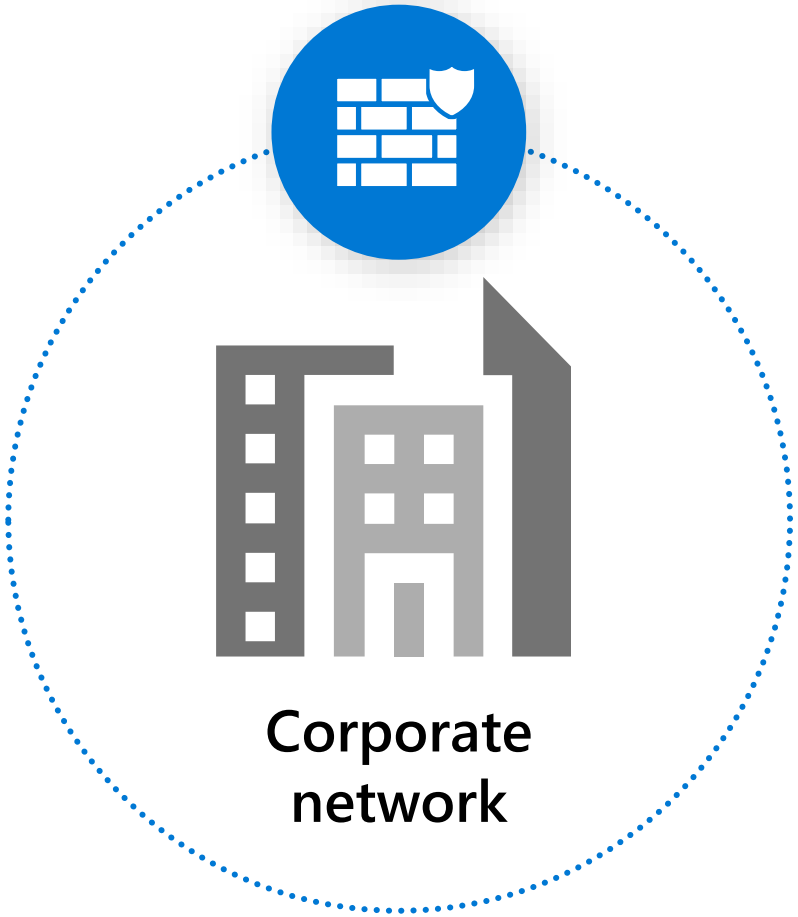
▪ Executive Advisory Board Member	**Deakin University Australia**
▪ Executive Advisory Board Member	**LaTrobe University Australia**
▪ Academic Director	**ISACA Melbourne Chapter**

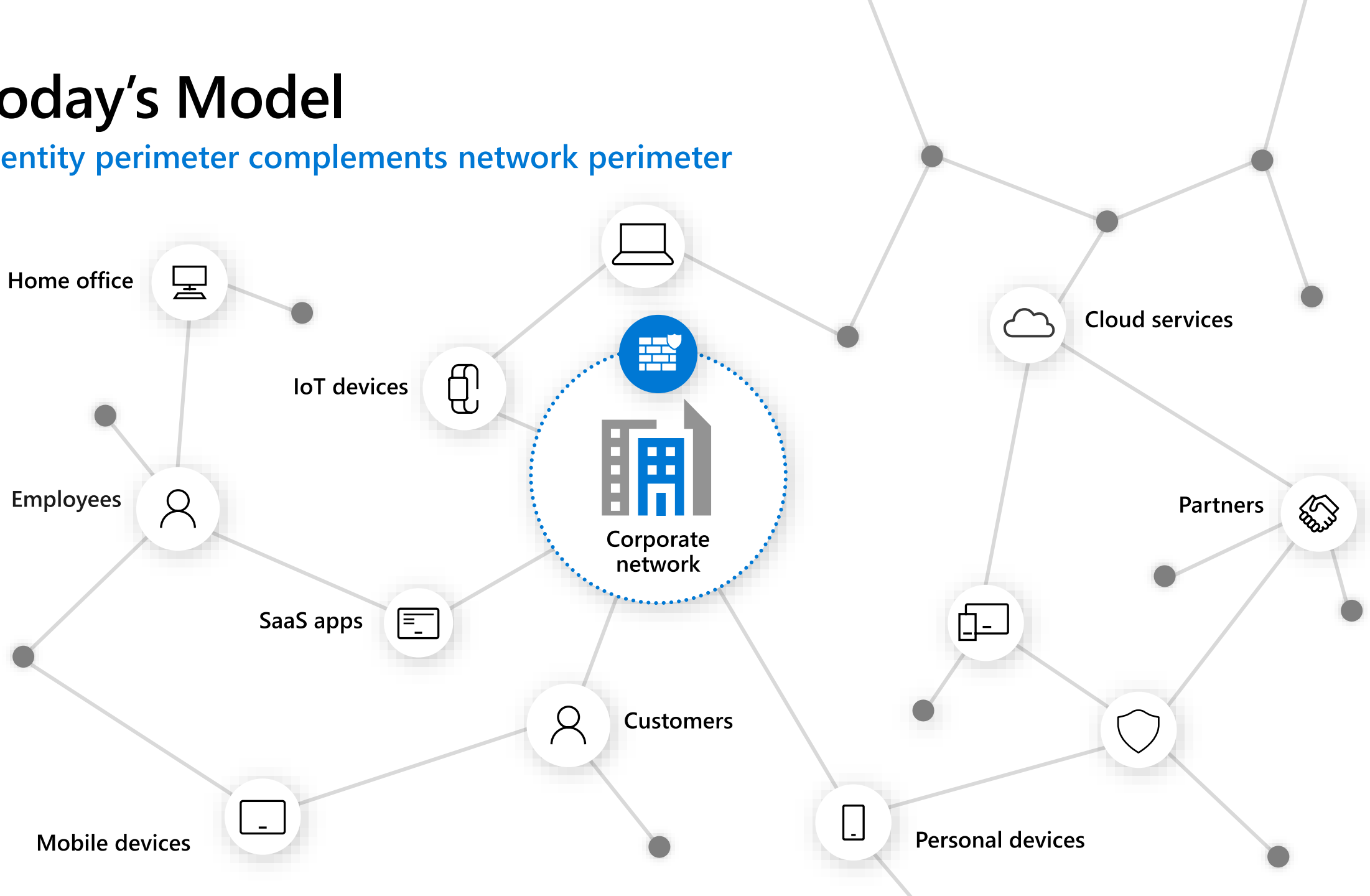
Traditional Model



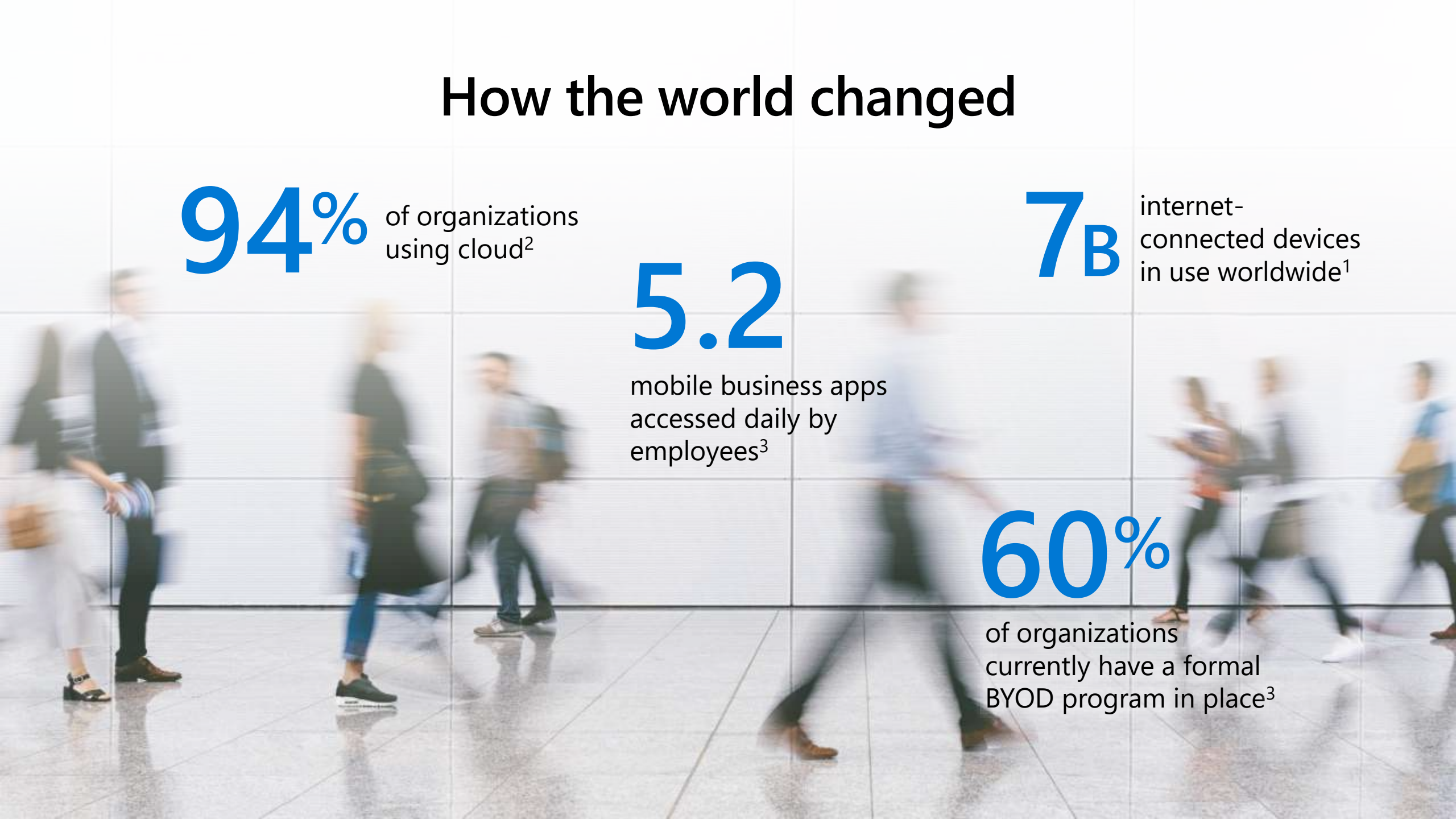
Users, devices, apps, and data protected behind a DMZ/firewall

Today's Model

Identity perimeter complements network perimeter



How the world changed



94% of organizations using cloud[2]

5.2 mobile business apps accessed daily by employees[3]

7B internet-connected devices in use worldwide[1]

60% of organizations currently have a formal BYOD program in place[3]

Old World vs. New World

~~Users are employees~~		Employees, partners, customers, bots
~~Corporate managed devices~~		Bring your own devices and IoT
~~On-premises apps~~		Explosion of cloud apps
~~Monolithic apps~~		Composite apps & public restful APIs
~~Corp network and firewall~~		Expanding Perimeters
~~Local packet tracking and logs~~		Explosion of signal

“Zero Trust” has been around for a while

2004
Jericho Forum
Formally Established

2014
Microsoft Advocates
“Assume Breach”

2016
Conditional
Access Released

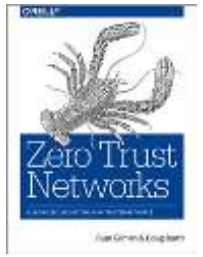
Ongoing
Passwordless
Initiative

~2004
Network Access Control
(NAC) Architectures

2010
Forrester coins
“Zero Trust” Term

2014
BeyondCorp
Published

2017



2019

[Zero Trust Architecture]

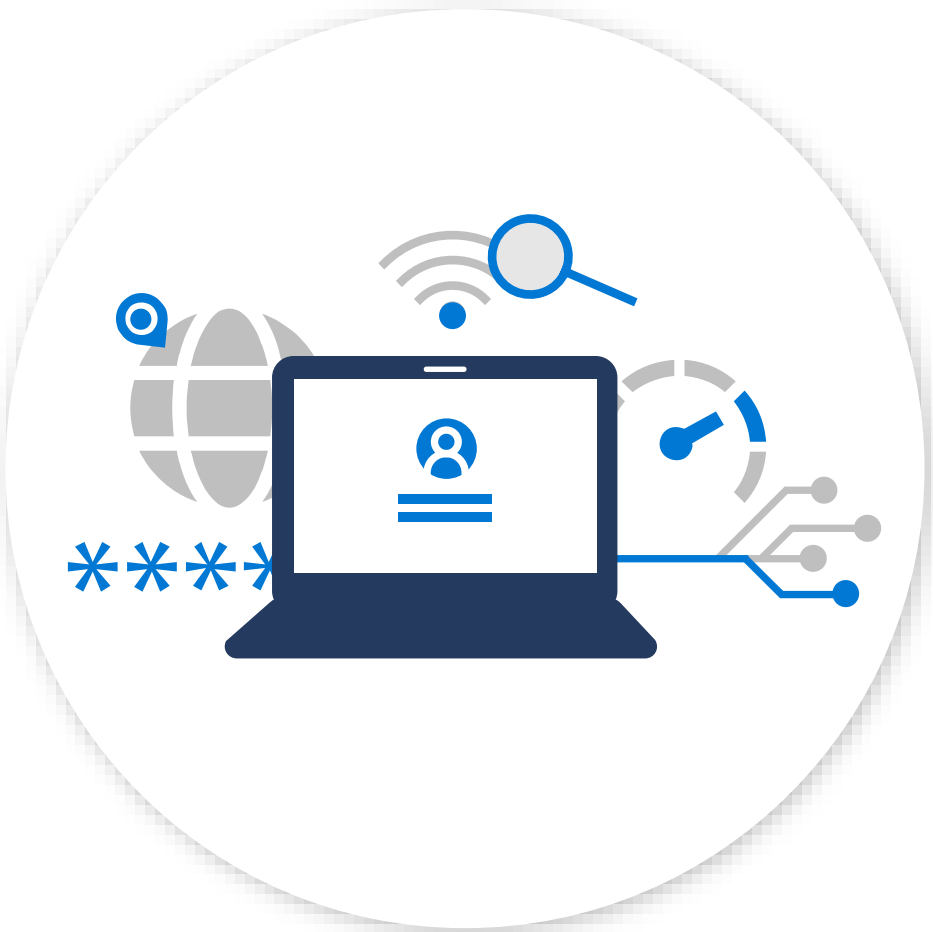
Historically slow mainstream adoption for both network & identity models:

Network – Expensive and challenging to implement
Google’s BeyondCorp success is rarely replicated

Identity – Natural resistance to big changes
Security has a deep history/affinity with networking

Converged approach gaining significant momentum (though still ‘early days’ of this approach)

Zero Trust



Security strategy – Treat every access attempt as if it's originating from an untrusted network.

Leads to

Access Architecture
uses policy to:

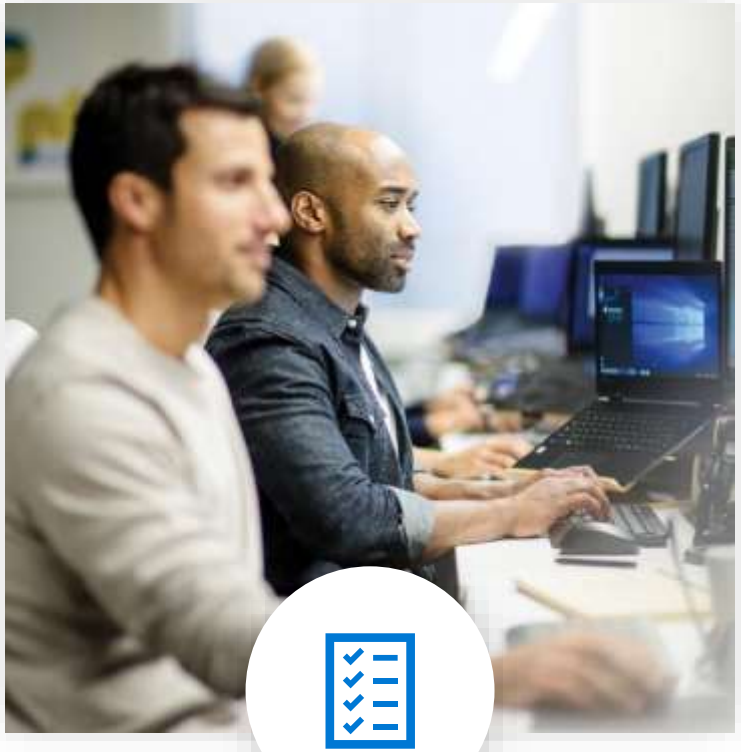
1. **Explicitly validate trustworthiness**
2. **Dynamically address insufficient trust:**
   - Increase trust
   - Limit access
   - Block access

Mobility & Choice
to enable productivity

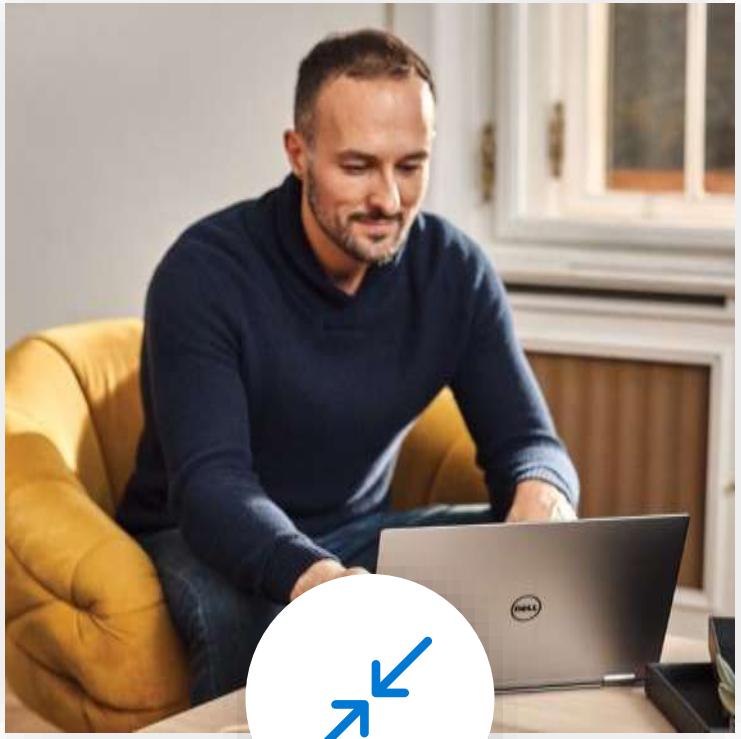
1. **Can work anywhere**
   - Applications & Data available anywhere
   - Security protections work anywhere
2. **Users can choose any device type**

Increases both security *and* productivity

A new reality needs new principles



Verify explicitly

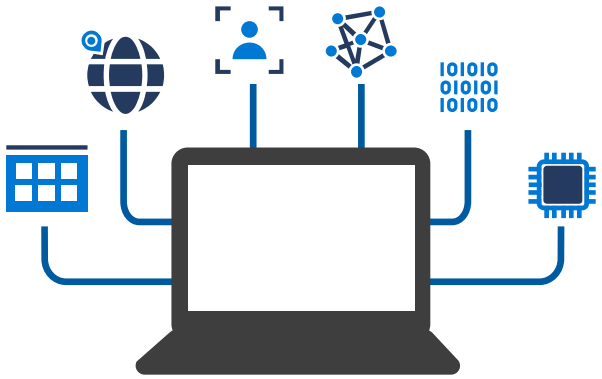


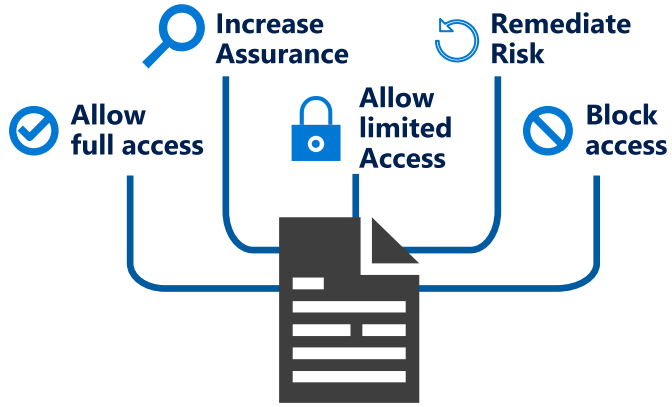
Use least privilege access

Assume breach

Zero Trust Access Control Strategy

Never Trust. Always verify.





Signal

to make an informed decision

Device Risk
- Device Management
- Threat Detection
- and more…

User Risk
- Multi-factor Authentication
- Behavior Analytics
- and more…

Decision

based on organization's policy

Apply to inbound requests

Re-evaluate during session

Enforcement

of policy across resources

Modern Applications
SaaS Applications
Legacy Applications
And more…

Zero Trust across the digital estate

Approach: Start with asking questions

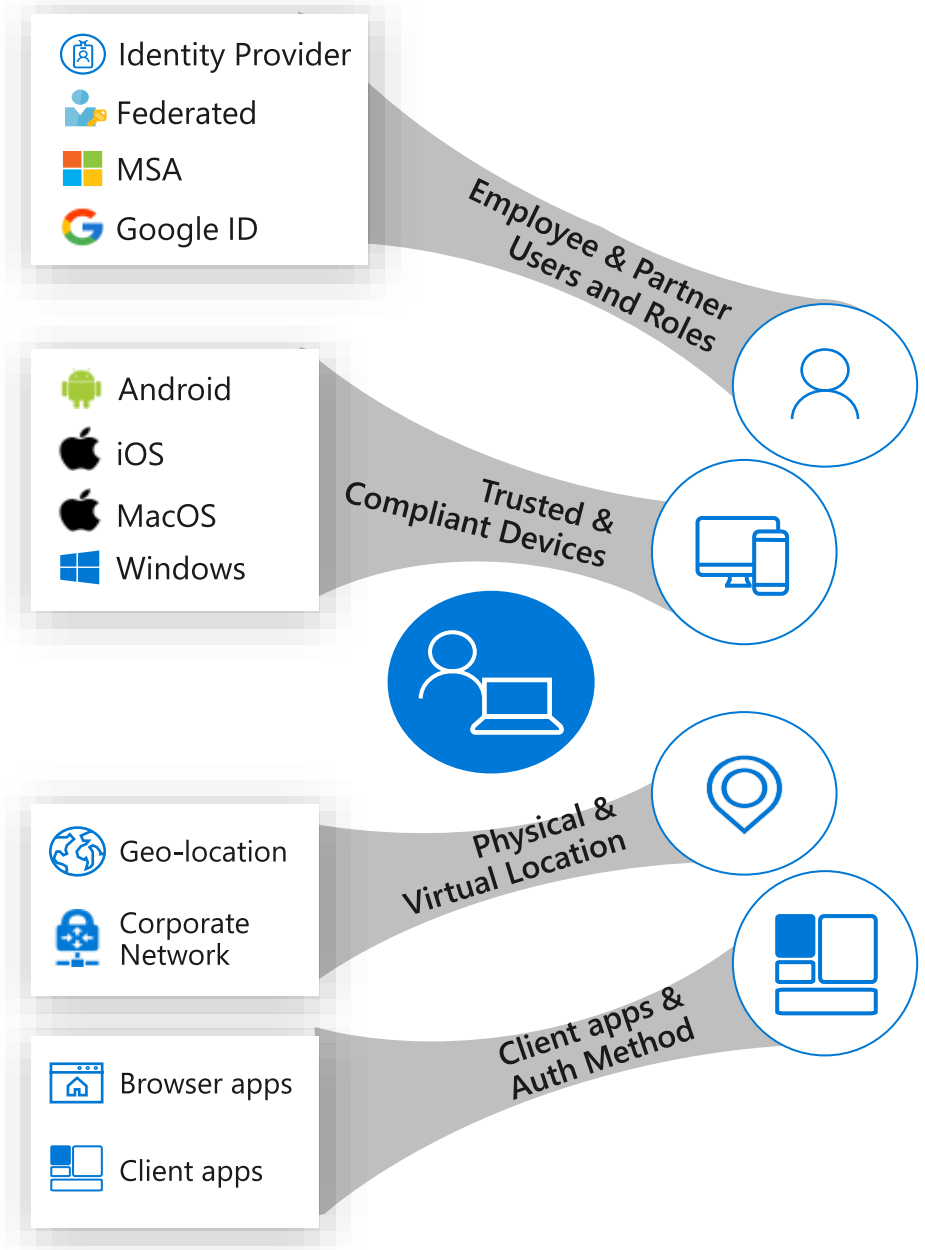
Who are your users? What apps are they trying to access? How are they doing it? Why are they doing it that way?

What conditions are required to access a corporate resource?

What controls are required based on the condition?

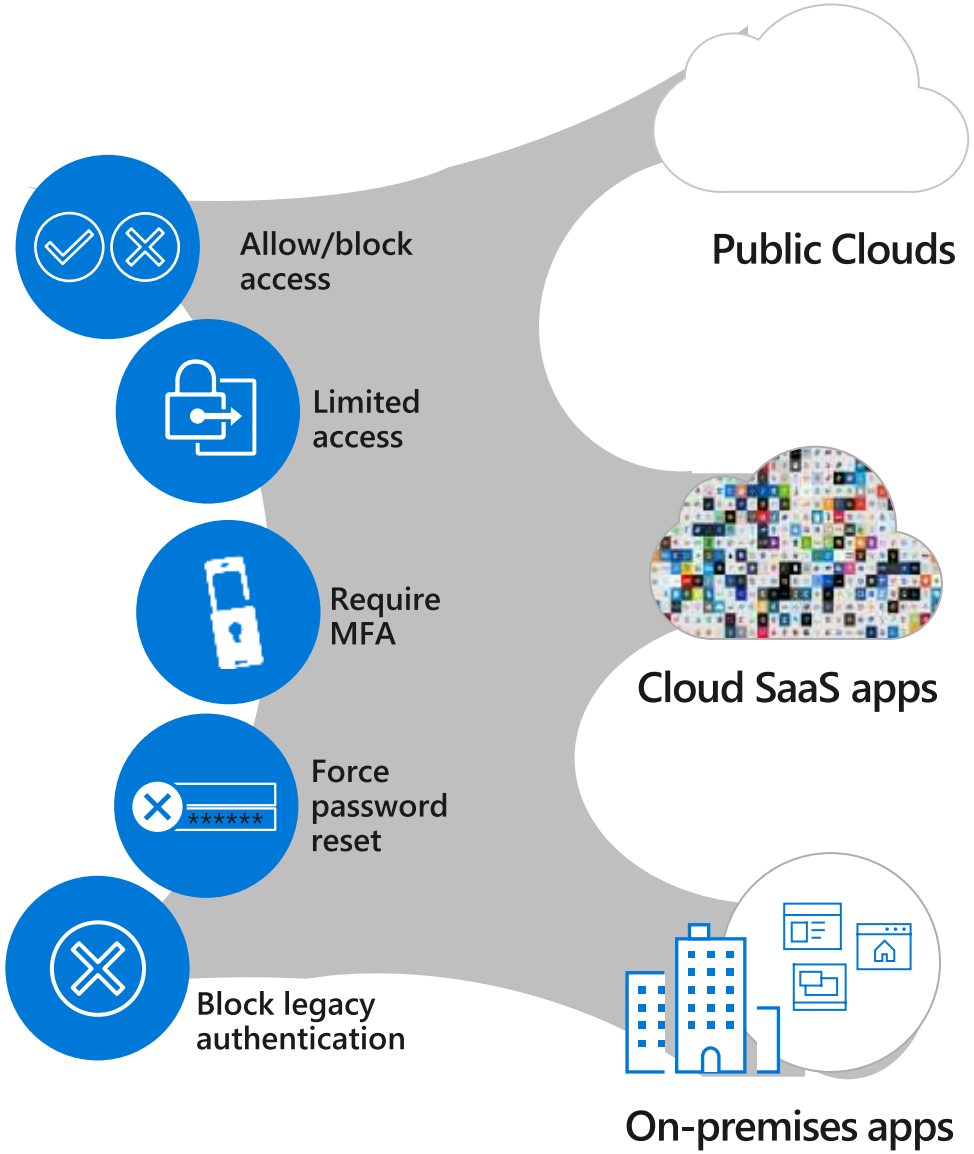
Consider an approach based on set of conditions

- What is the user's role and group membership?
- What is the device health and compliance state?
- What is the SaaS, on-prem or mobile app being accessed?
- What is the user's physical location?
- What is the time of sign-in?
- What is the sign-in risk of the user's identity? (i.e. probability it isn't authorized by the identity owner)
- What is the user risk? (i.e. probability a bad actor has compromised the account?

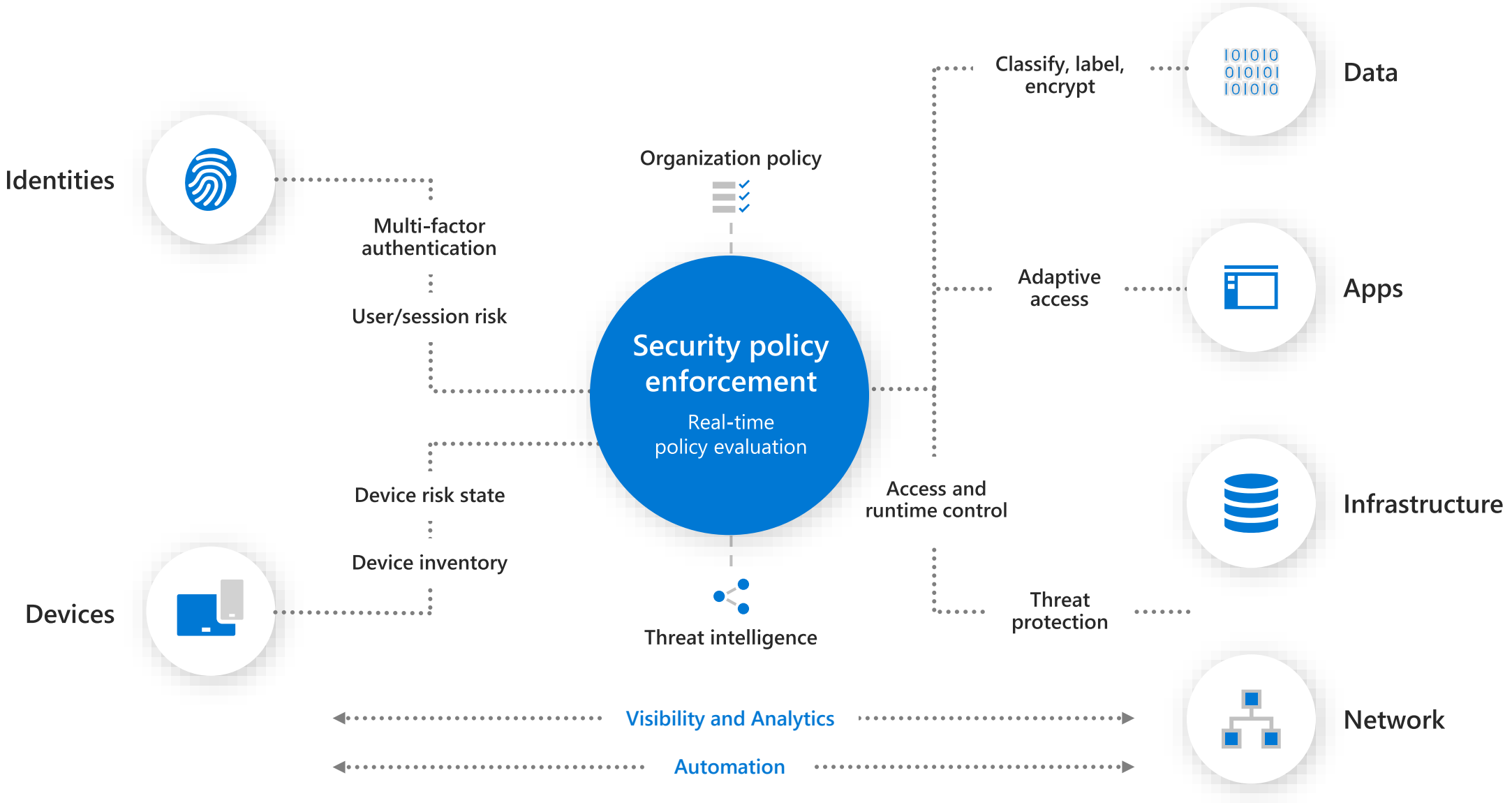


Followed by a set of controls (if/then statement)

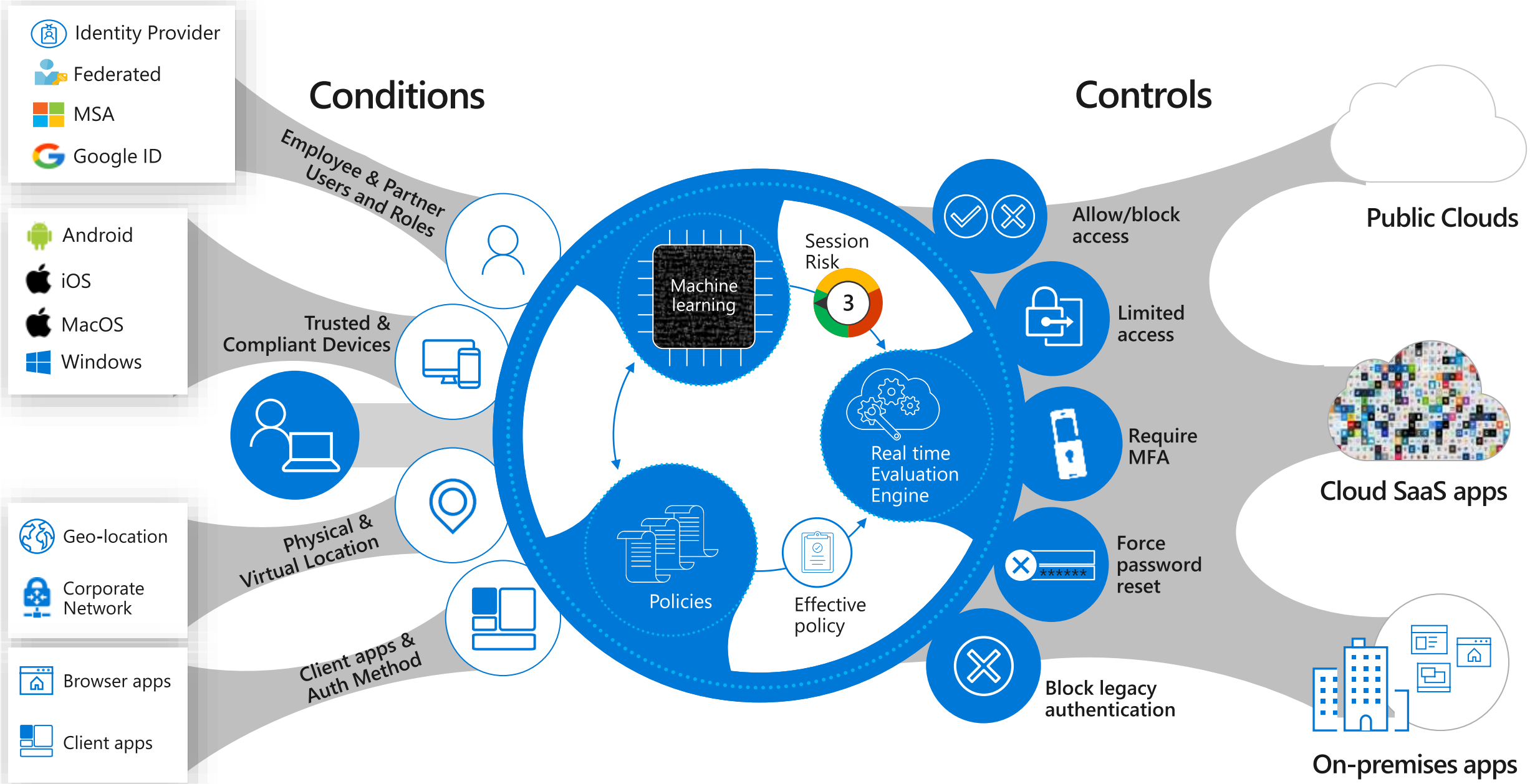
- Allow/deny access
- Require MFA
- Force password reset
- Control session access to the app (i.e. allow read but not download, etc)



Microsoft Zero Trust architecture

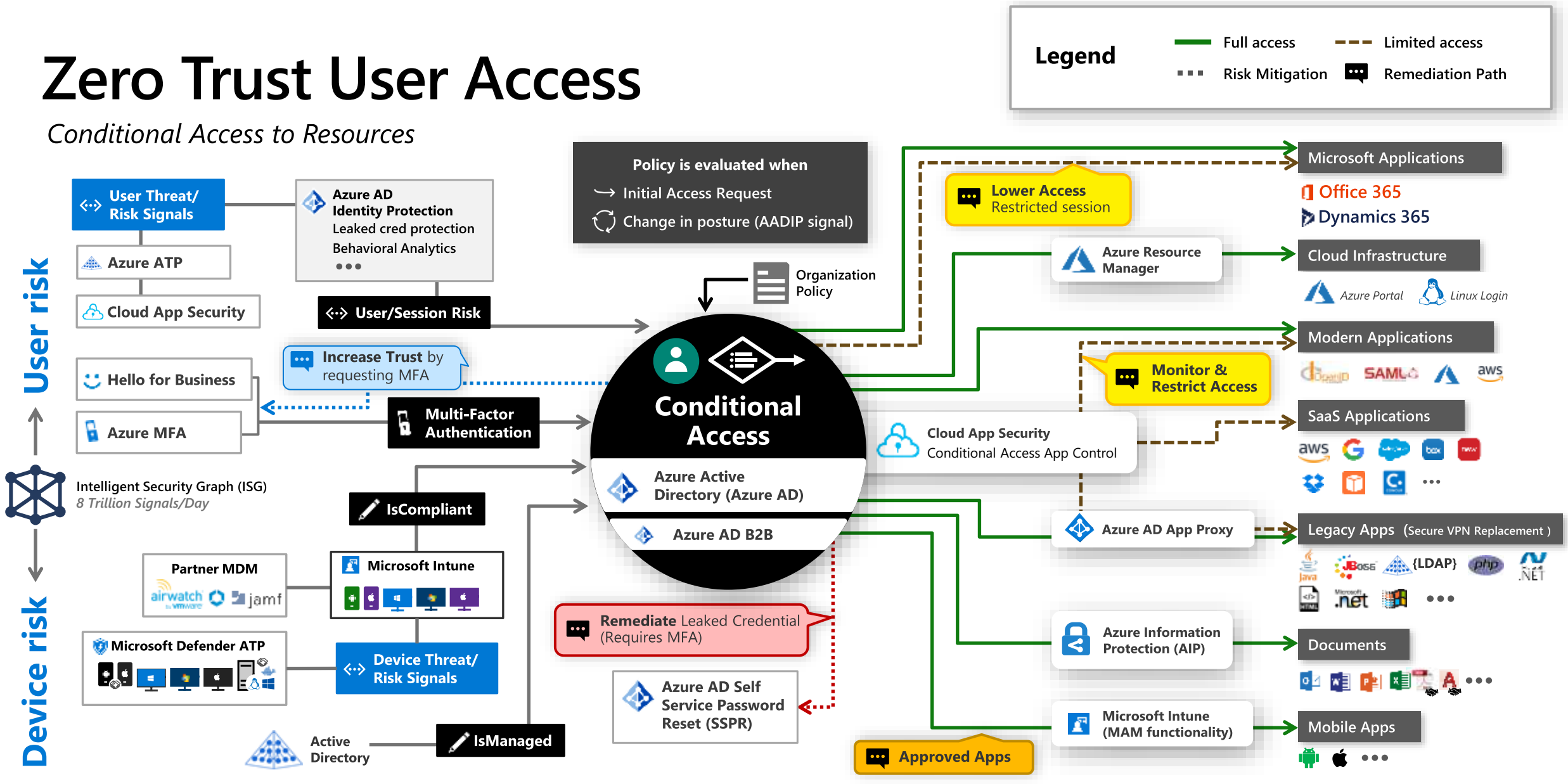


Zero Trust based on conditional access controls



Zero Trust User Access

Conditional Access to Resources



Signal
to make an informed decision

Decision
based on organizational policy

Enforcement
of policy across resources

Microsoft's Recommended Zero Trust Priorities

Do the most important stuff first

1. **Align segmentation strategy & teams** by unifying network, identity, app, etc. into a single enterprise segmentation strategy (aligns naturally to Azure/Cloud migration)

2. **Build modern (identity-based) perimeter**

Critical Path

- **User -** Require Passwordless or MFA to access modern applications
- **Device -** Require Device Integrity for Access (critically important step)

Roll out critical path to IT Admins first

- Targeted by Attackers
- High potential impact
- Provide technical feedback

Finish Strategy

- Modernize Apps + Retrofit strong assurances to legacy on-premises assets via App Proxy
- Increase Protection levels for sensitive data (CASB, CA Access Control, AIP)
- Retire legacy authentication protocols (retiring some required for effective MFA)

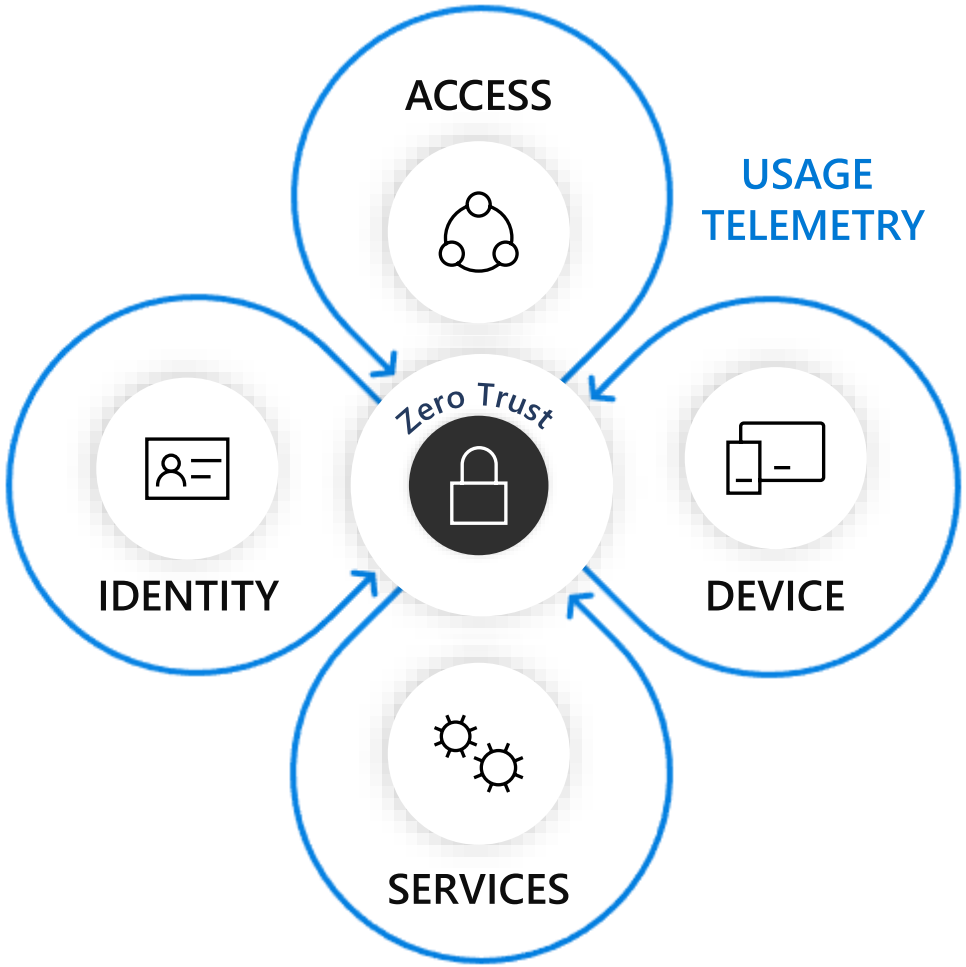
3. **Refine segmentation and network perimeter**

- Segment assets with business critical, life safety, and operational/physical impact.
- Add microsegementation to further reduce risk (static and/or dynamic trust-based restrictions)
- Retire or isolate legacy computing platforms (Unsupported OS/Applications)

How Microsoft achieved “Zero Trust”?

“Strong identity + device health + least privilege user access verified with telemetry”

- ✓ Assets are moved from the internal network to the internet… except for the most critical assets
- ✓ Enhanced user experience with Internet First
- ✓ Reduced attack surface of the environment
- ✓ Comprehensive telemetry, artificial intelligence for anomaly detection, service health verification

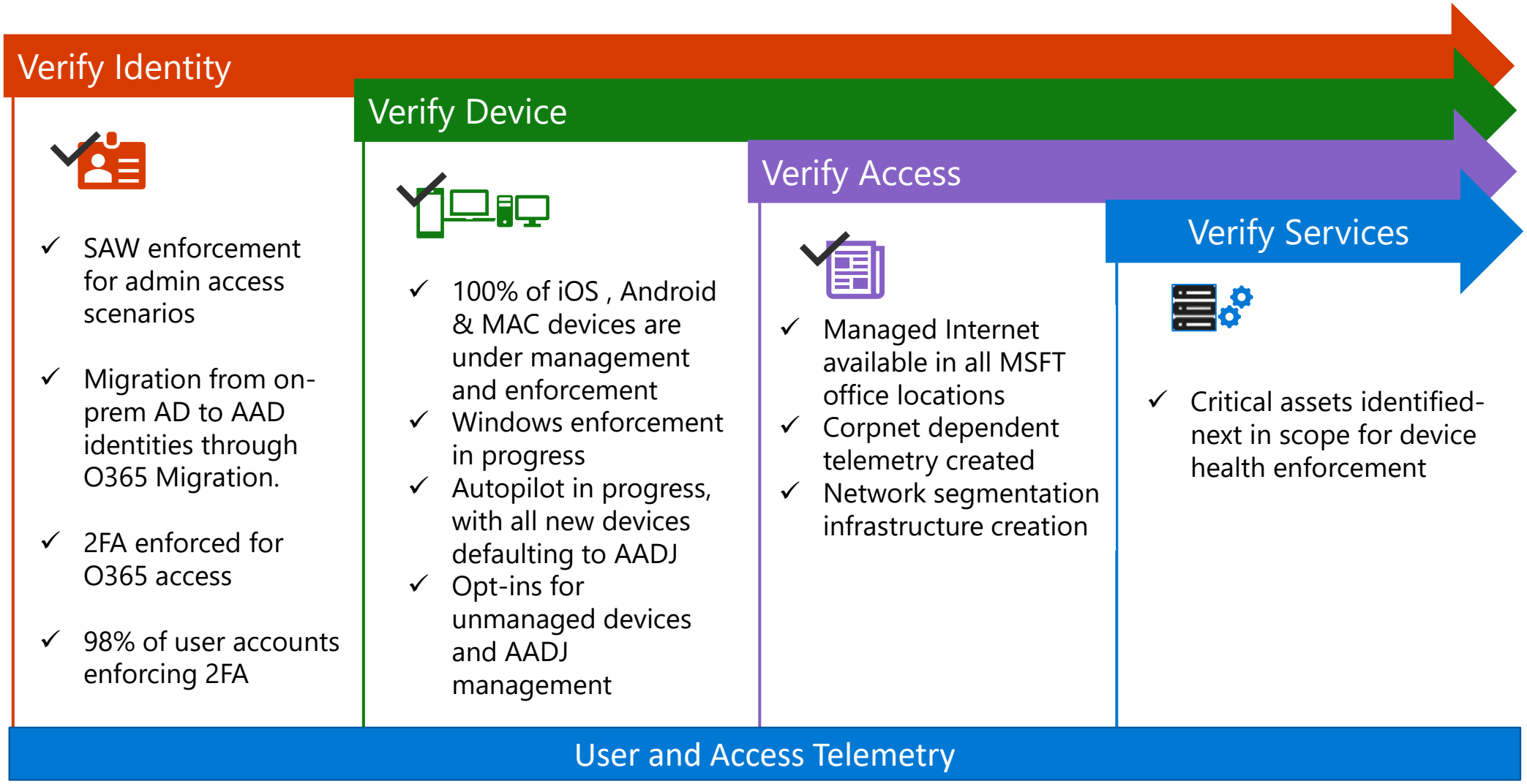


Zero Trust Access Model

Productivity Benefits:
50% update time reduction
75% reduction in device issues
2x battery life
Faster device boot times – 75% improvement

Security Benefits:
Elimination of "shadow" VPN & Wireless APs
4x security auths – no user interaction
Reduction of surface area – 42% reduction
No more passwords – Helpdesk call reduction

Major phases of Zero Trust - Progress



Key Considerations in getting started

1. **Collect telemetry** and **evaluate risks**, and then **set goals.**

2. Get to modern identity and MFA - **Onboard to AAD.**

3. For CA enforcement, **focus on top used applications** to ensure maximum coverage.

4. Start with **simple policies** for device health enforcement such as device lock or password complexity.

5. Determine your **network connectivity strategy**

microsoft.com/en-us/security/business/zero-trust

Apps | Somax Sports - Rev... | Facebook | Video: Flexibility Fo... | Starting With Manu... | Advanced Security... | HP Probook 4520s... | Animated PowerPoi... | DMOZ - Computers... | Mind Maps ... | Privacy Victoria - O...

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aka.ms/Zero-Trust

Enable a remote workforce by embracing Zero Trust security

Support your employees working remotely by providing more secure access to corporate resources through continuous assessment and intent-based policies.

Watch now

Read maturity model paper

Zero Trust assessment tool

Assess your Zero Trust maturity stage to determine where your organization is and how to move to the next stage.

Take the assessment >

Zero Trust maturity model assessment

Assess your Zero Trust maturity stage (Traditional, Advanced or Optimal) to determine where your organization currently stands. This assessment will give you recommendations on how to progress to the next stage.

Identities

Verify and secure every identity with strong authentication across your entire digital estate.

Get started >

Devices

Gain visibility into devices accessing the network and ensure compliance and health status before granting access.

Get started >

Applications

Discover Shadow IT and control access with real-time analytics and monitoring.

Get started >

Infrastructure

Employ real-time threat detection, automatically block and flag risks, and employ least privilege access principles.

Get started >

Data

Classify, label, and protect data with end-to-end encryption.

Get started >

Network

Encrypt all internal communications, limit access by policy, and employ microsegmentation and real-time threat detection.

Get started >

Operations in a Zero Trust model

- Automatic gating to applications is key.
- Automatic remediation based on device health (not rely on user intervention).
- Monitoring for policy violations (signal from the noise).
- Prioritizing alerts correlated with sensitive data access.
- Reporting on state of Identity, Device, SaaS app and data.

Making it real with demos

- Demonstrate how a Zero Trust model behaves in the real world using key scenarios
- Tying the key Zero Trust components together with conditional access policies
- See example reports of policy violations
- Understand the user experience in a Zero Trust model

Demo

Challenge with Multi-Factor Authentication, w/ Apple Watch and Terms of Use to an app when using a non-managed device

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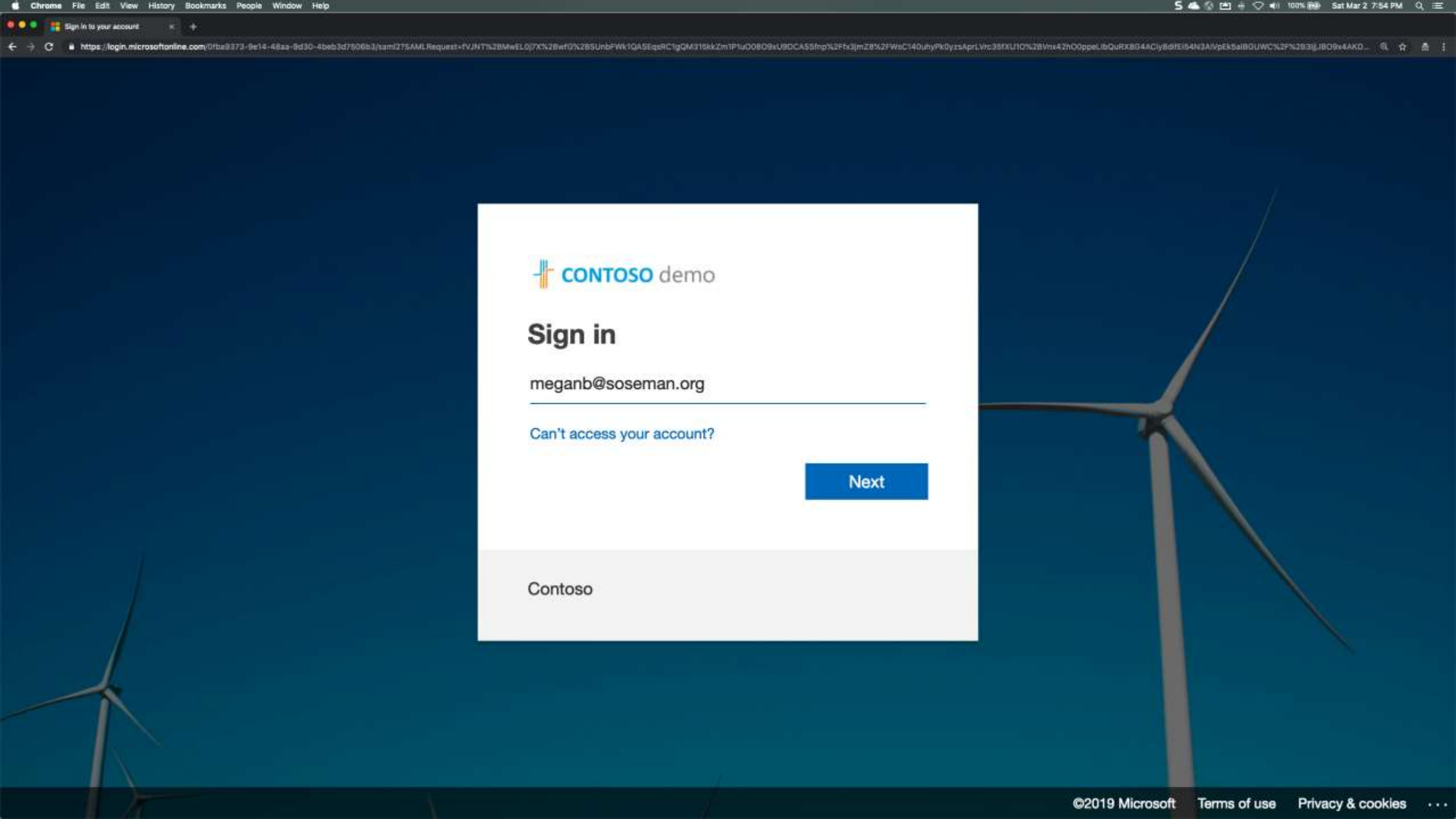
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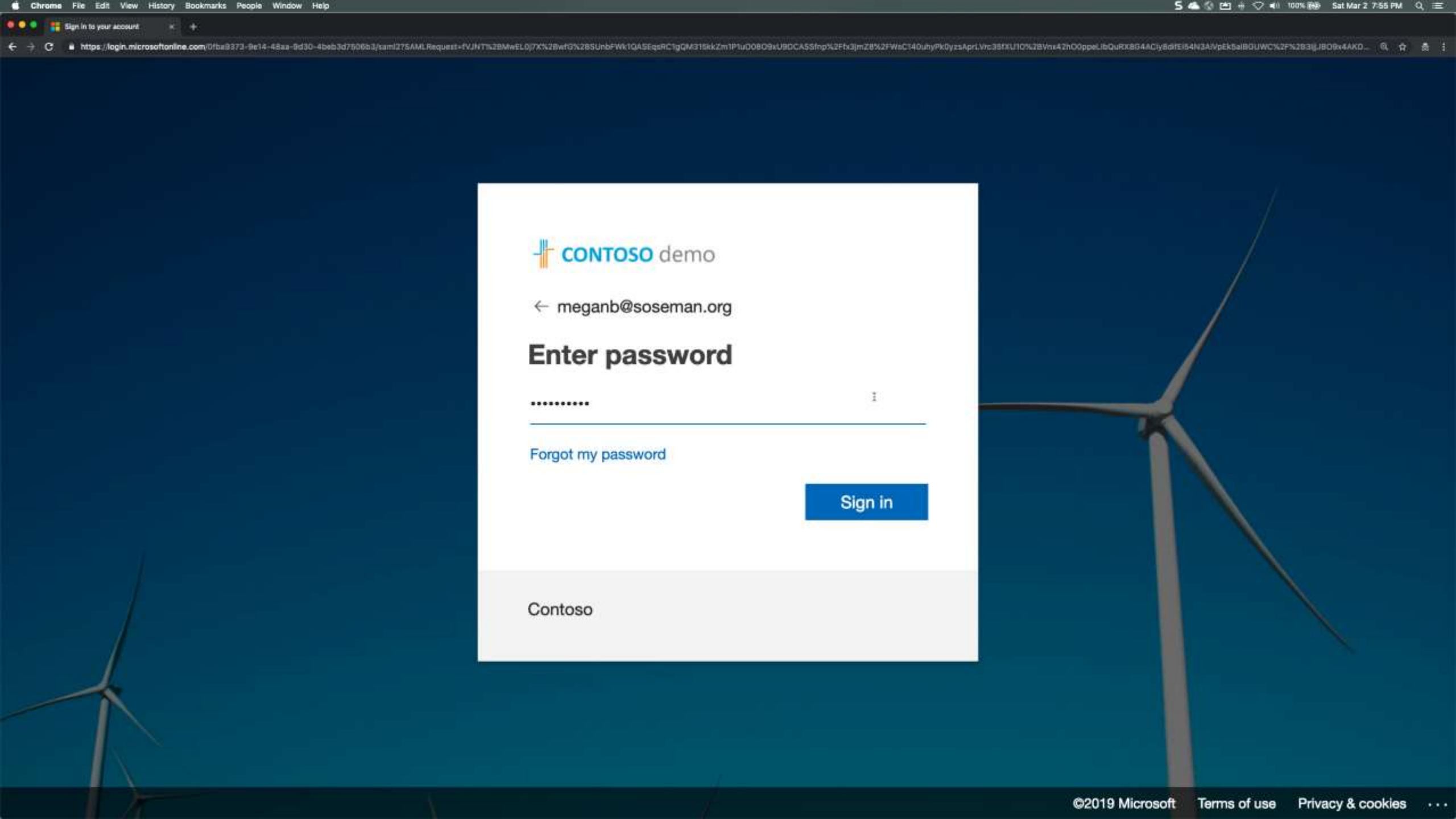
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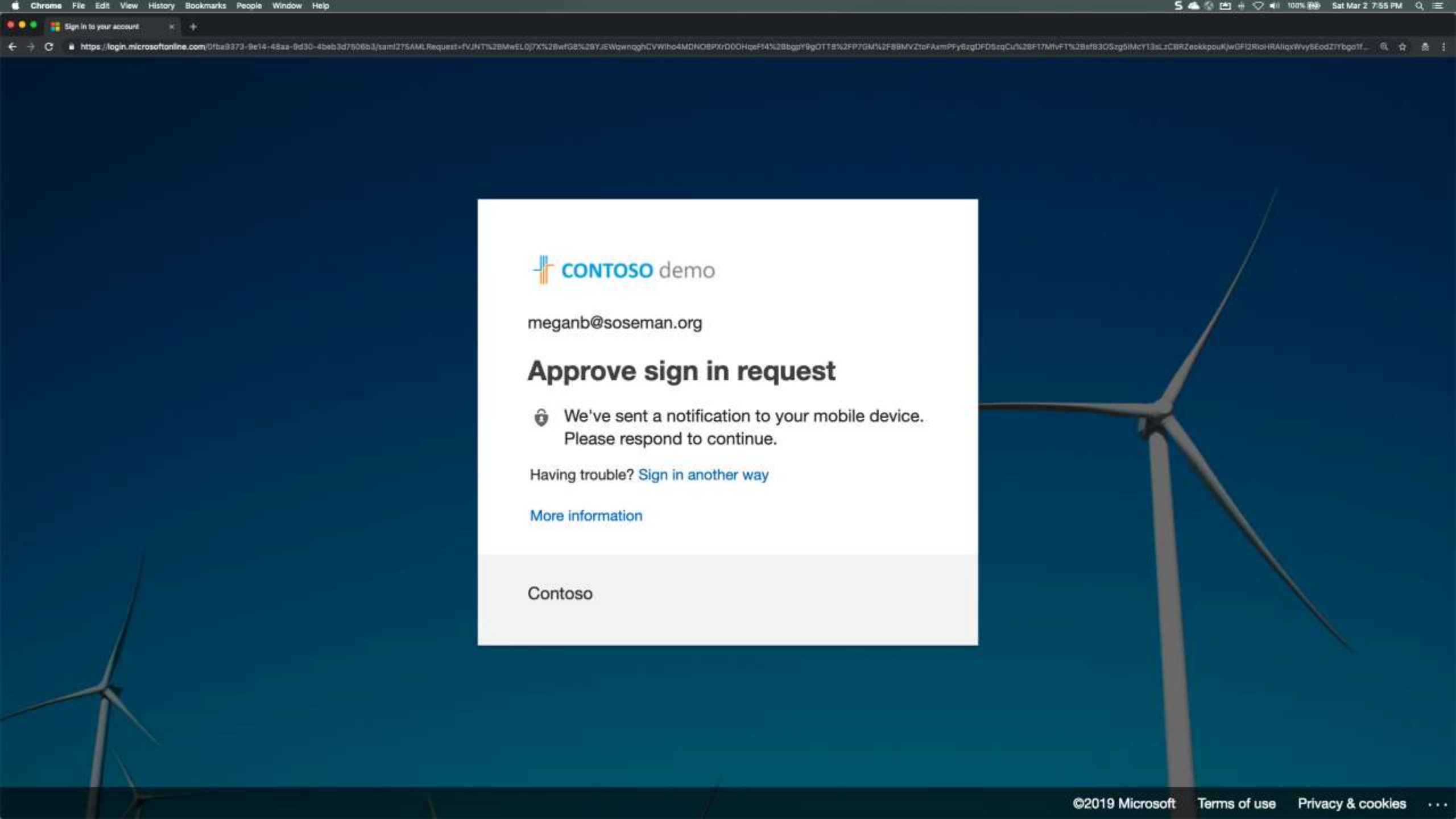
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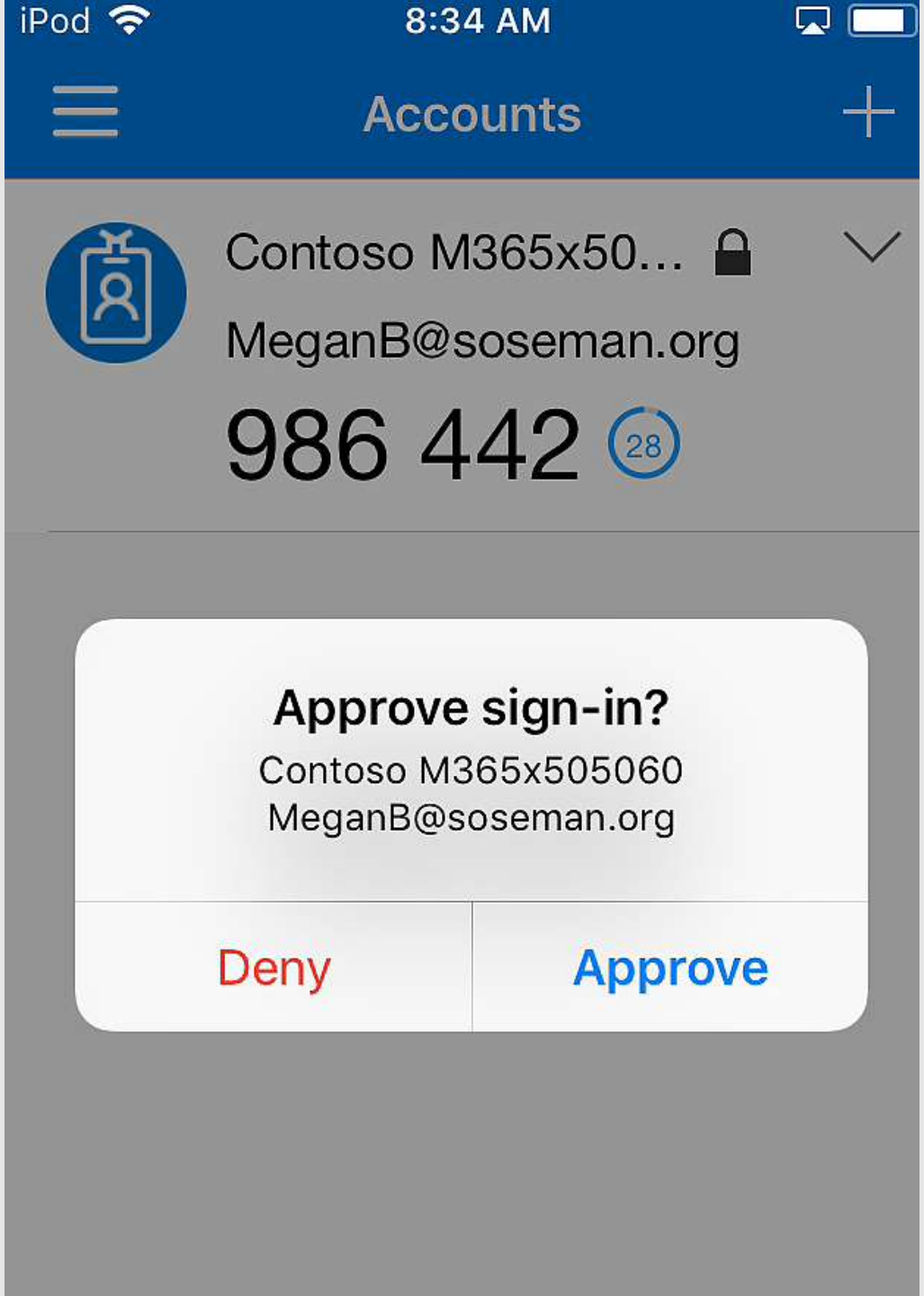
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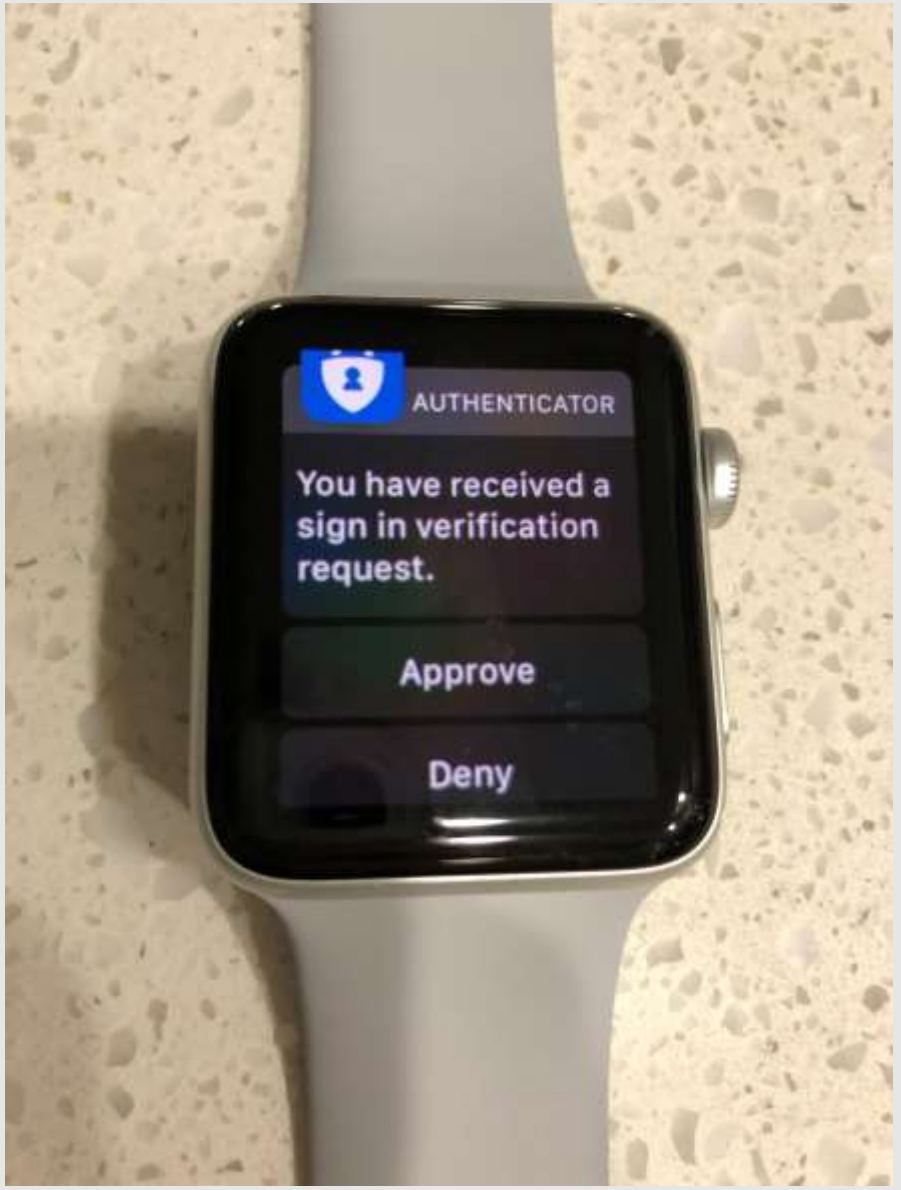
AUTHENTICATOR
You have received a sign in verification request.
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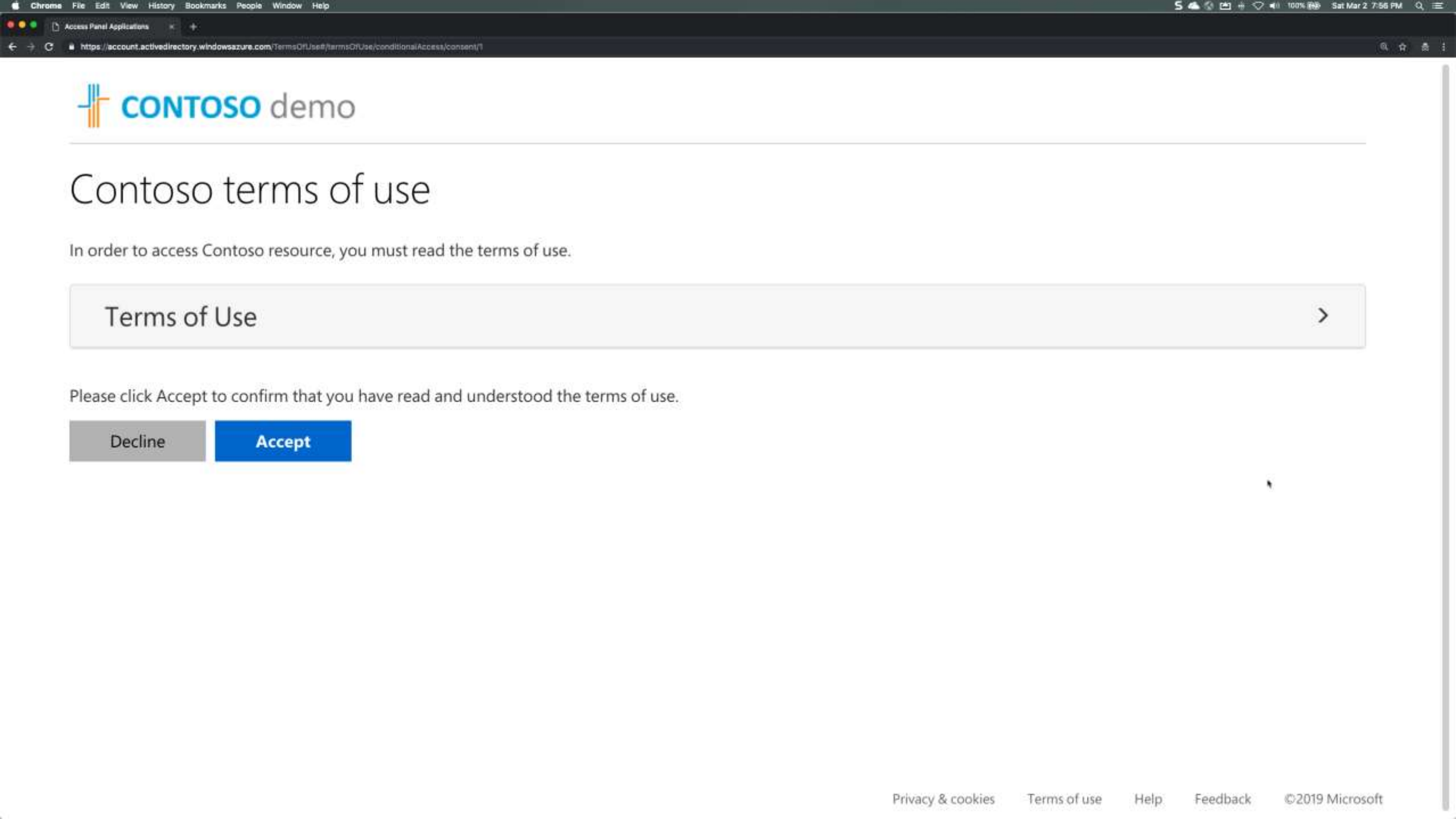
Deny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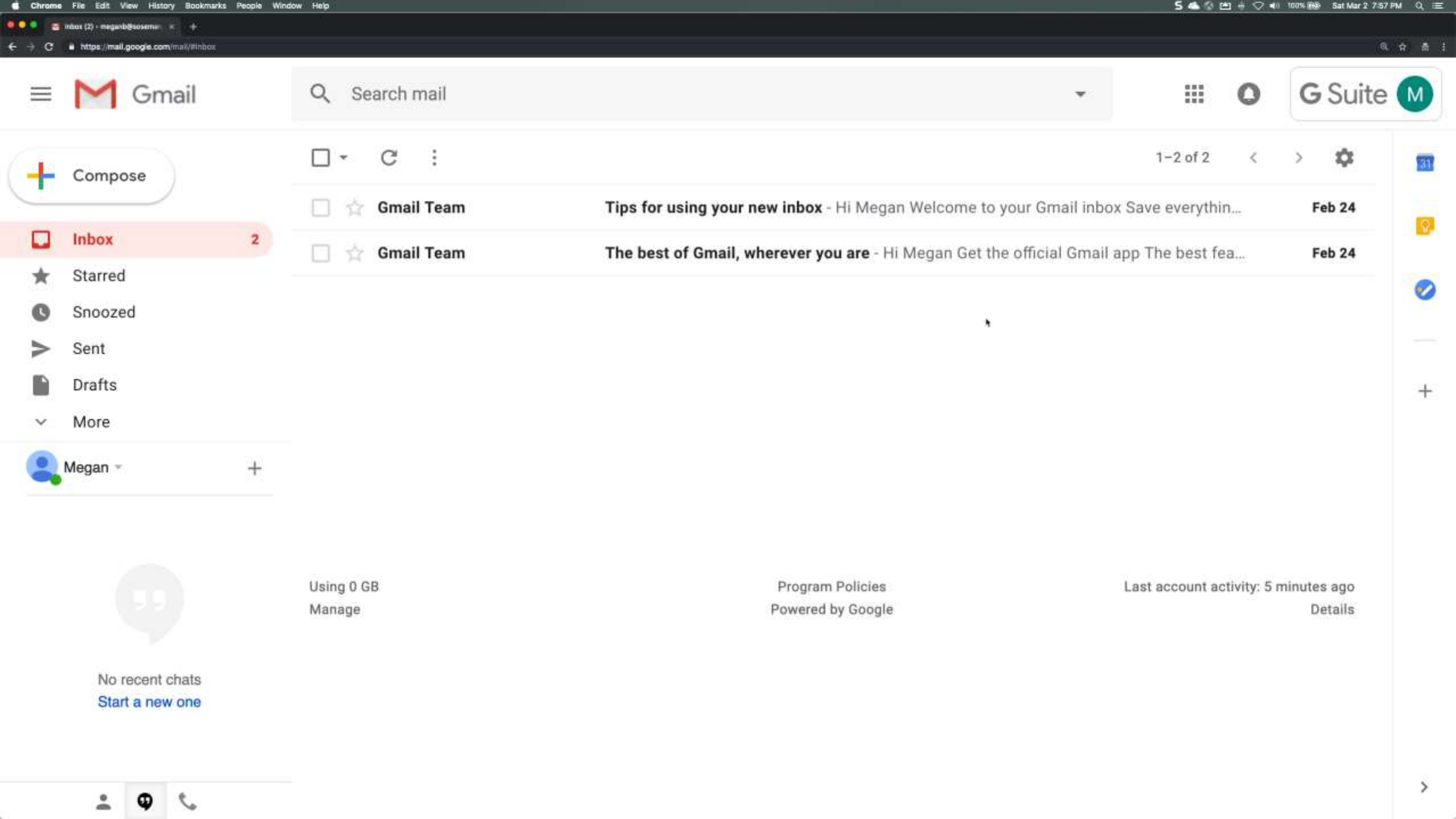
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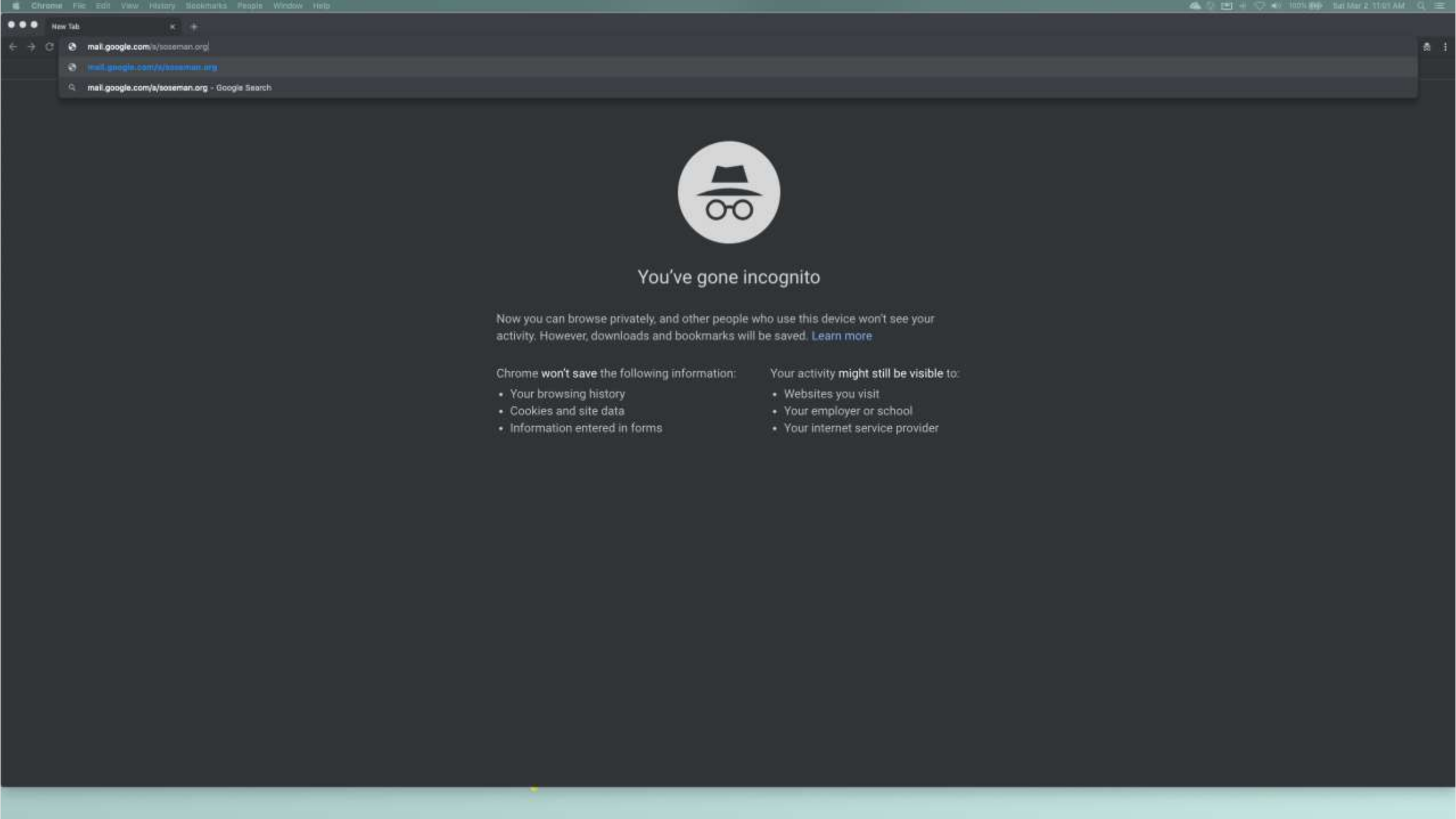
Start a new one

Demo

Require device is managed and compliant to access corporate resources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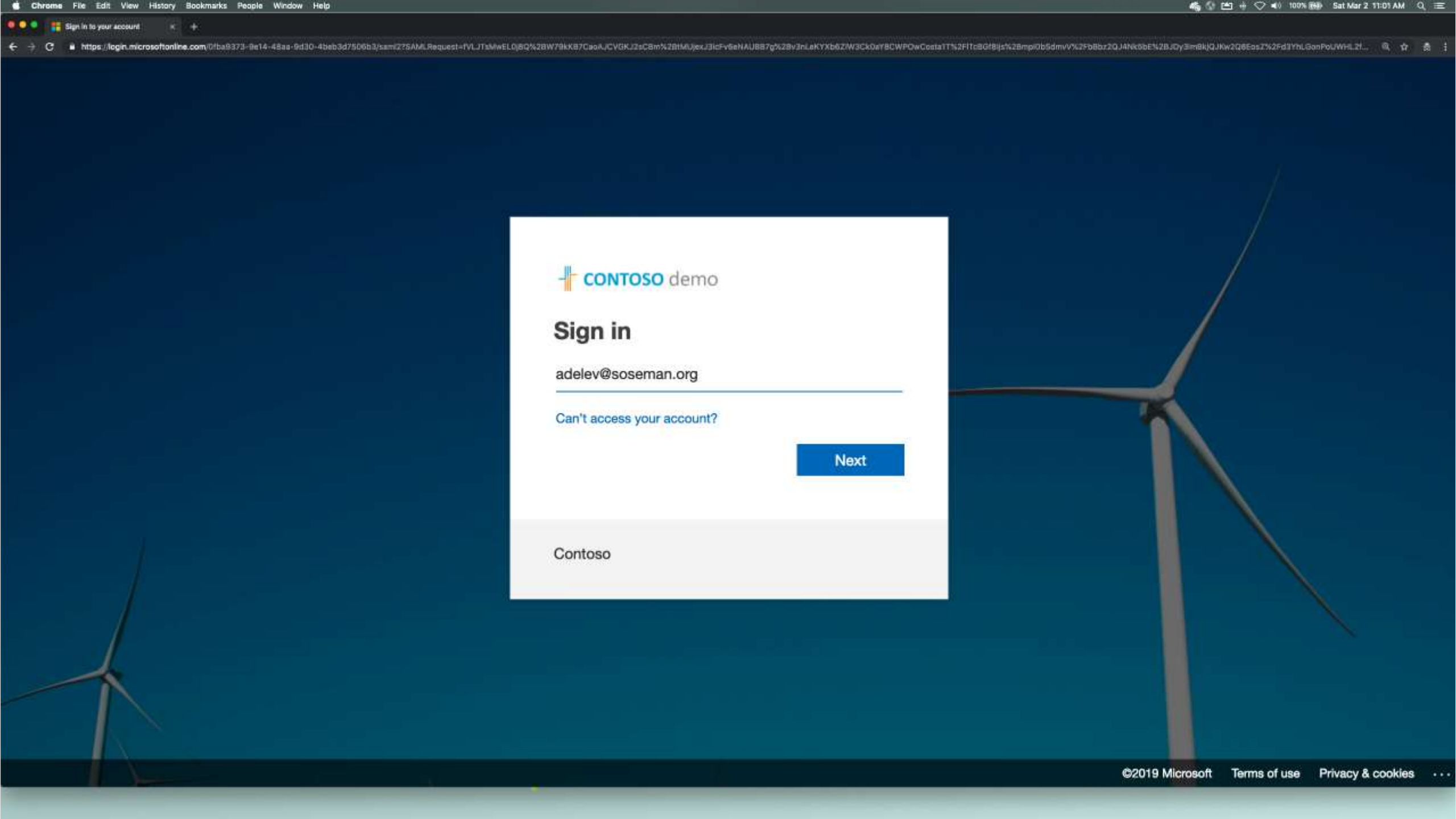
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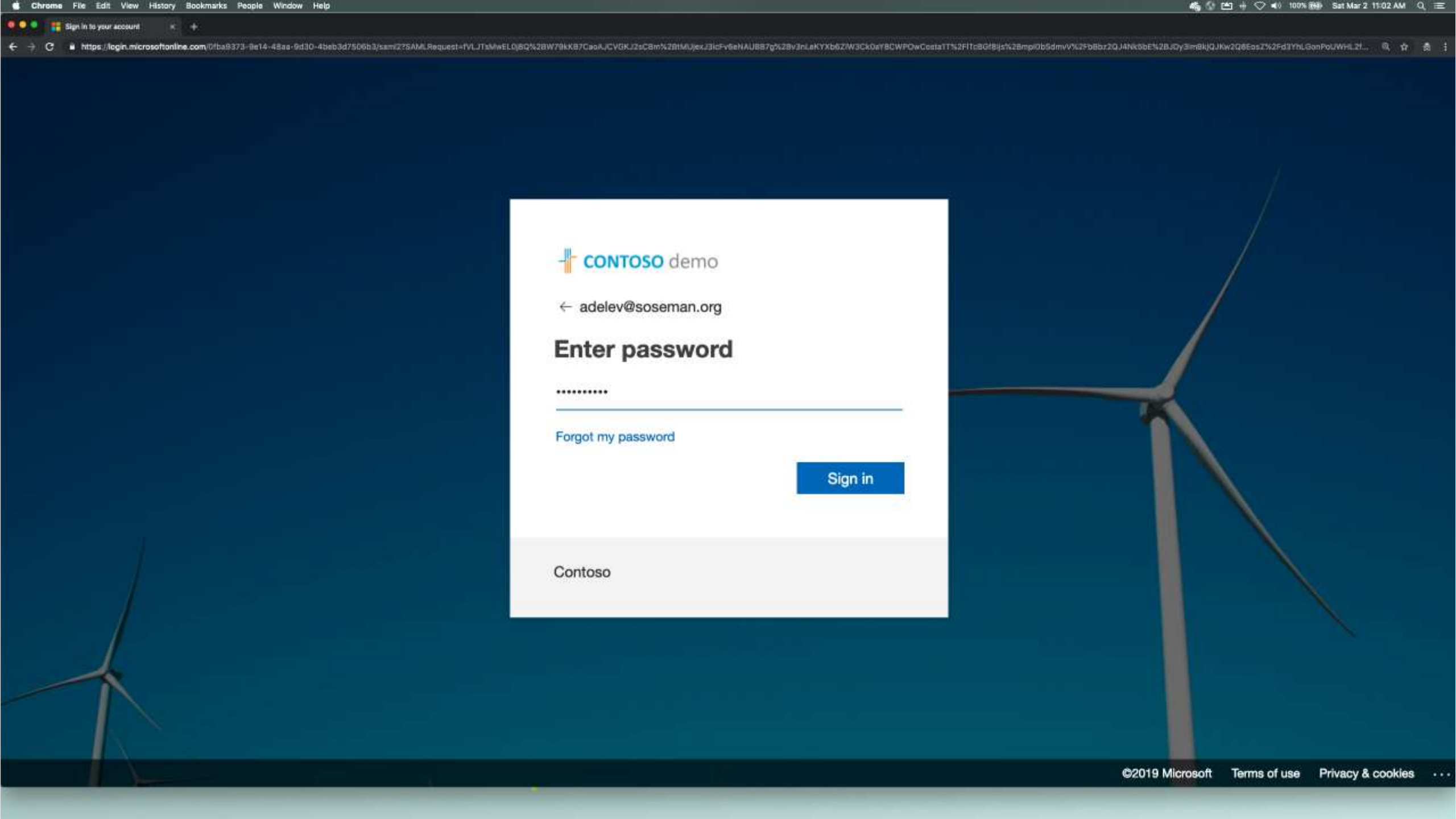
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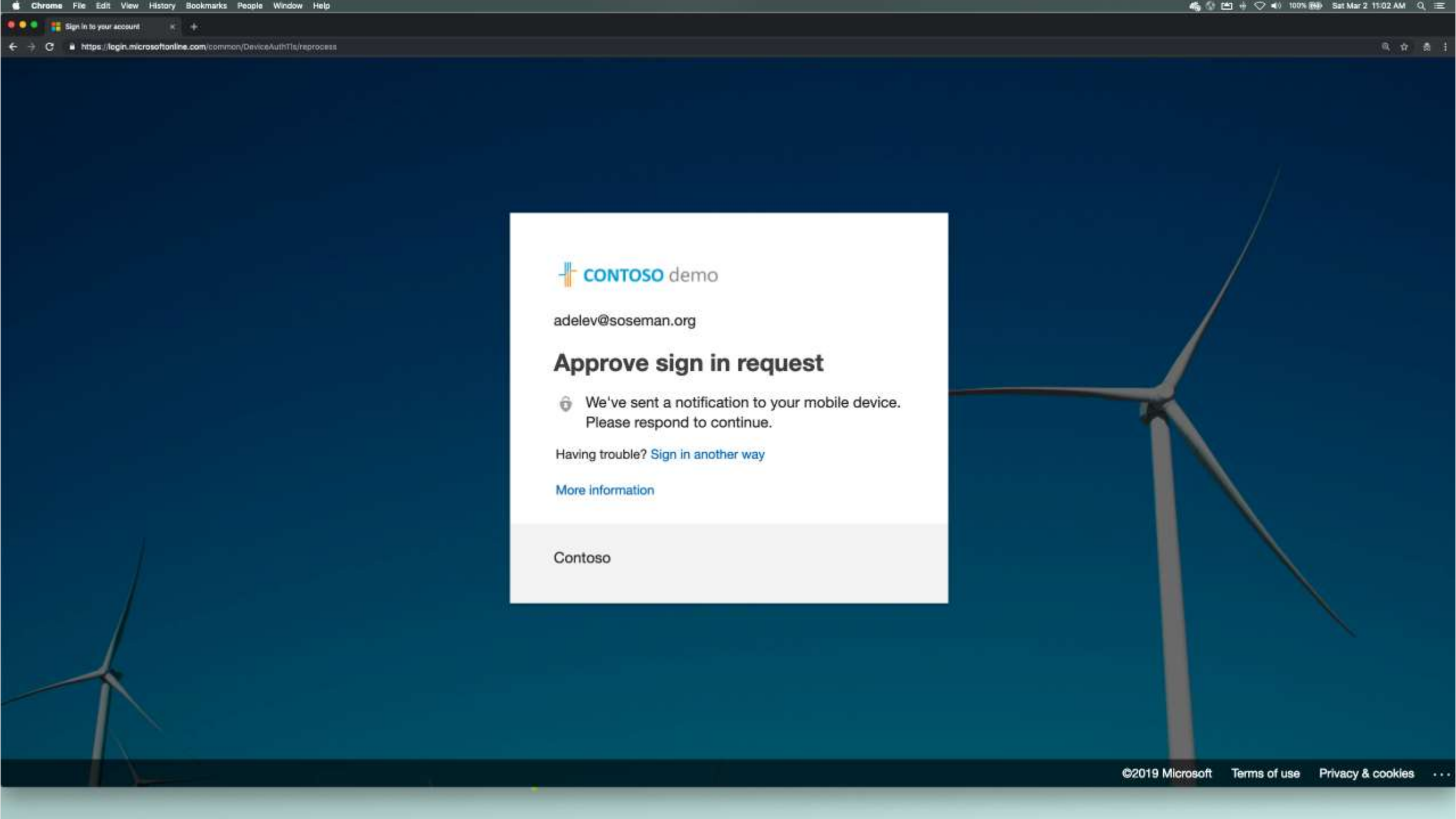
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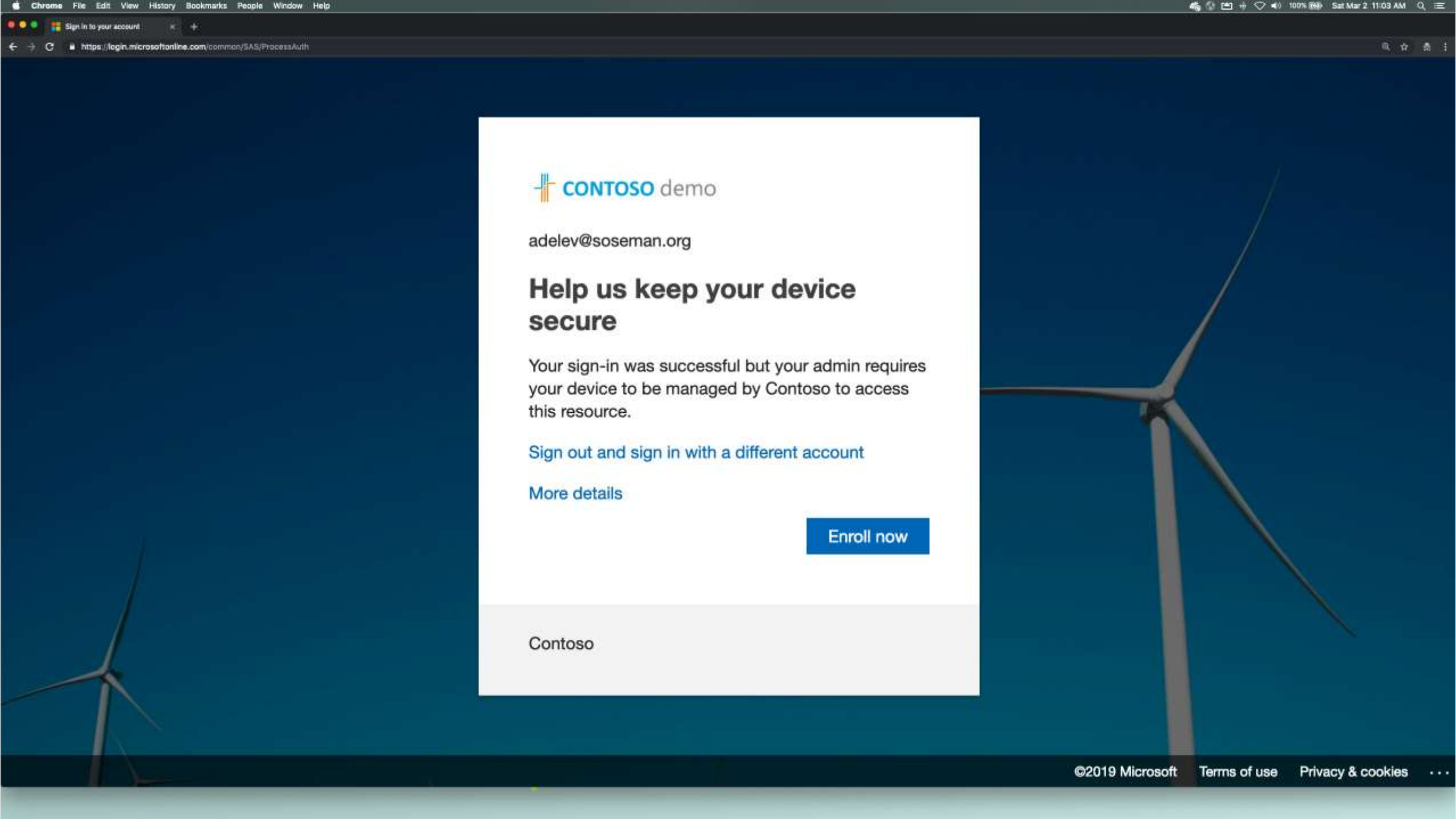
Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:03 AM
Sign in to your account
https://login.microsoftonline.com/common/SAS/ProcessAuth
CONTOSO demo
adelev@soseman.org
Help us keep your device secure
Your sign-in was successful but your admin requires your device to be managed by Contoso to access this resource.
Sign out and sign in with a different account
More details
Enroll now
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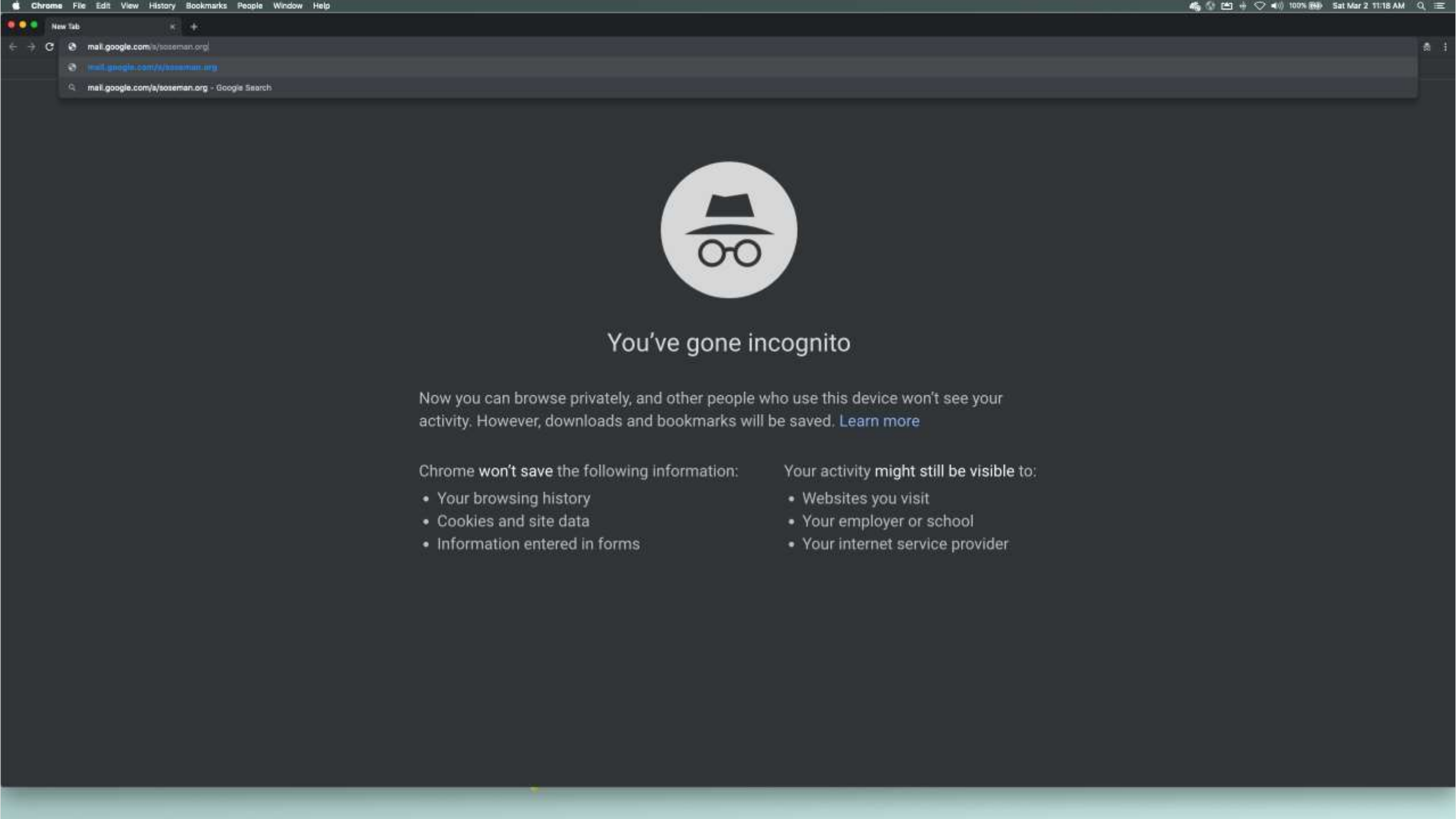
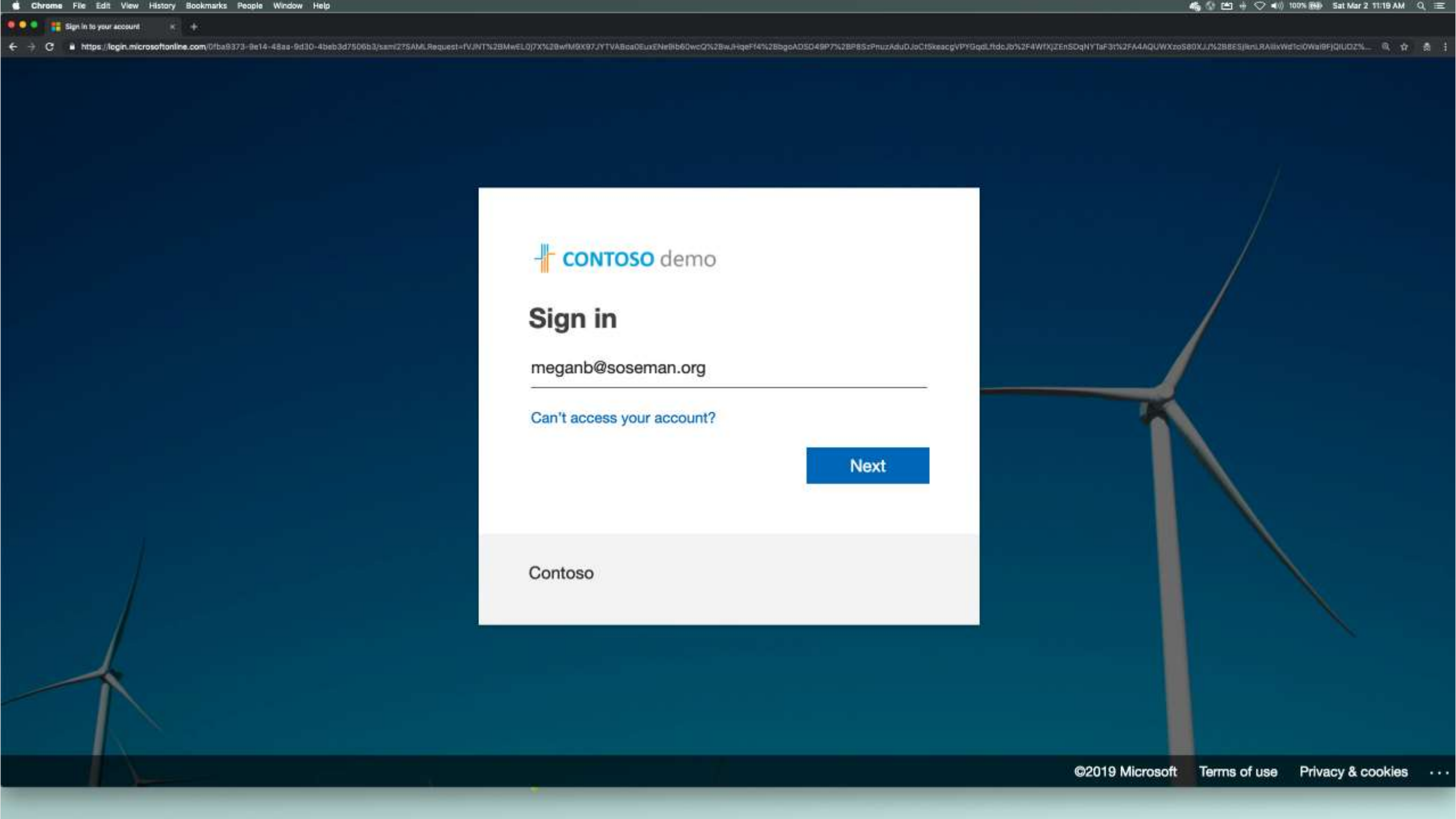
Demo

Limiting and auditing session access from a non-managed device (i.e. prevent download from app or apply DLP to downloaded files)


Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:18 AM
New Tab
mail.google.com/a/soseman.org
mail.google.com/a/soseman.org
mail.google.com/a/soseman.org - Google Search
You've gone incognito
Now you can browse privately, and other people who use this device won't see your activity. However, downloads and bookmarks will be saved. Learn more
Chrome won't save the following information:
• Your browsing history
• Cookies and site data
• Information entered in forms
Your activity might still be visible to:
• Websites you visit
• Your employer or school
• Your internet service provider


Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:19 AM
Sign in to your account
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CONTOSO demo
Sign in
meganb@soseman.org
Can't access your account?
Next
Contoso
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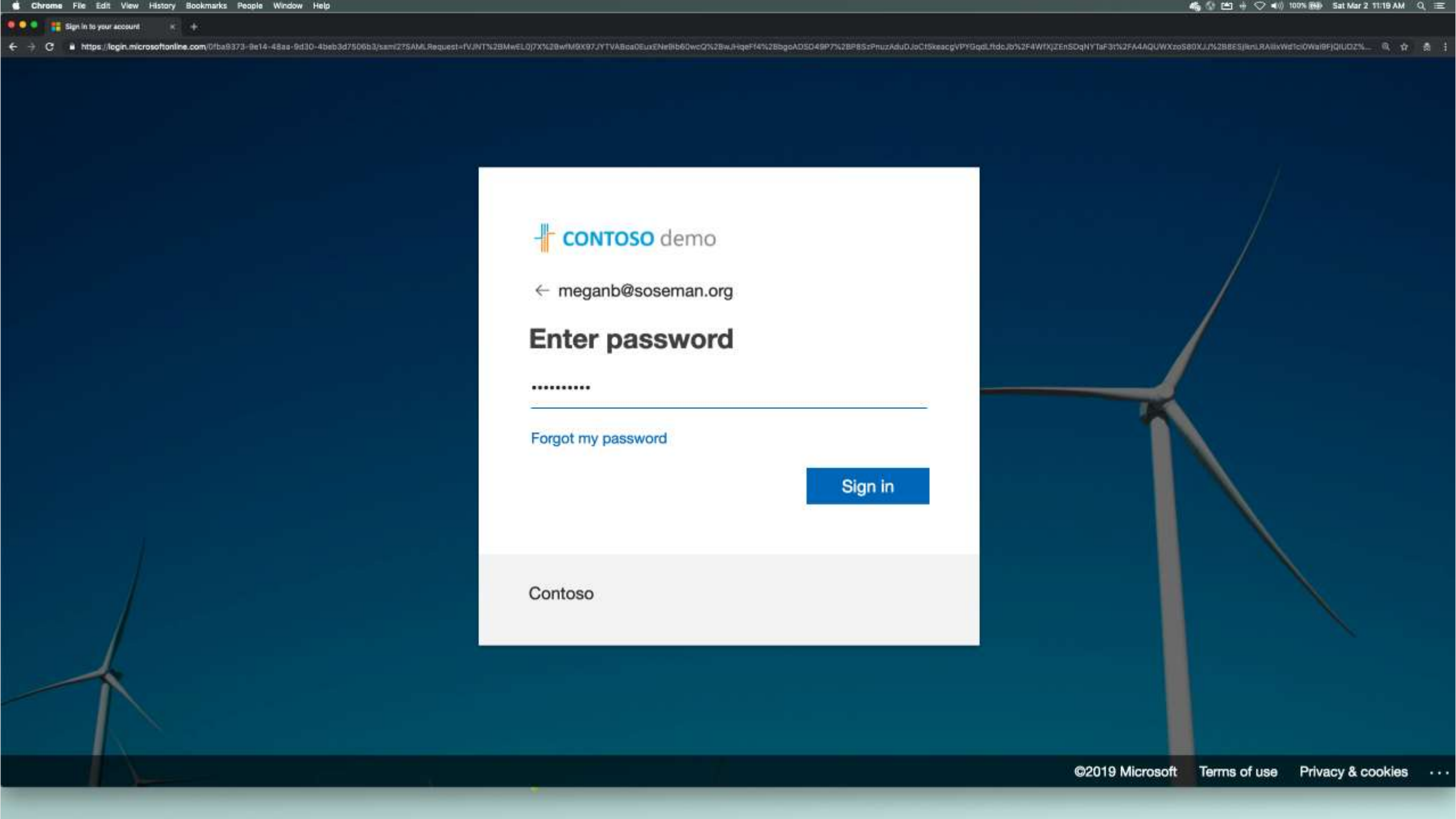
Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:19 AM
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meganb@soseman.org
Enter password
Forgot my password
Sign in
Contoso
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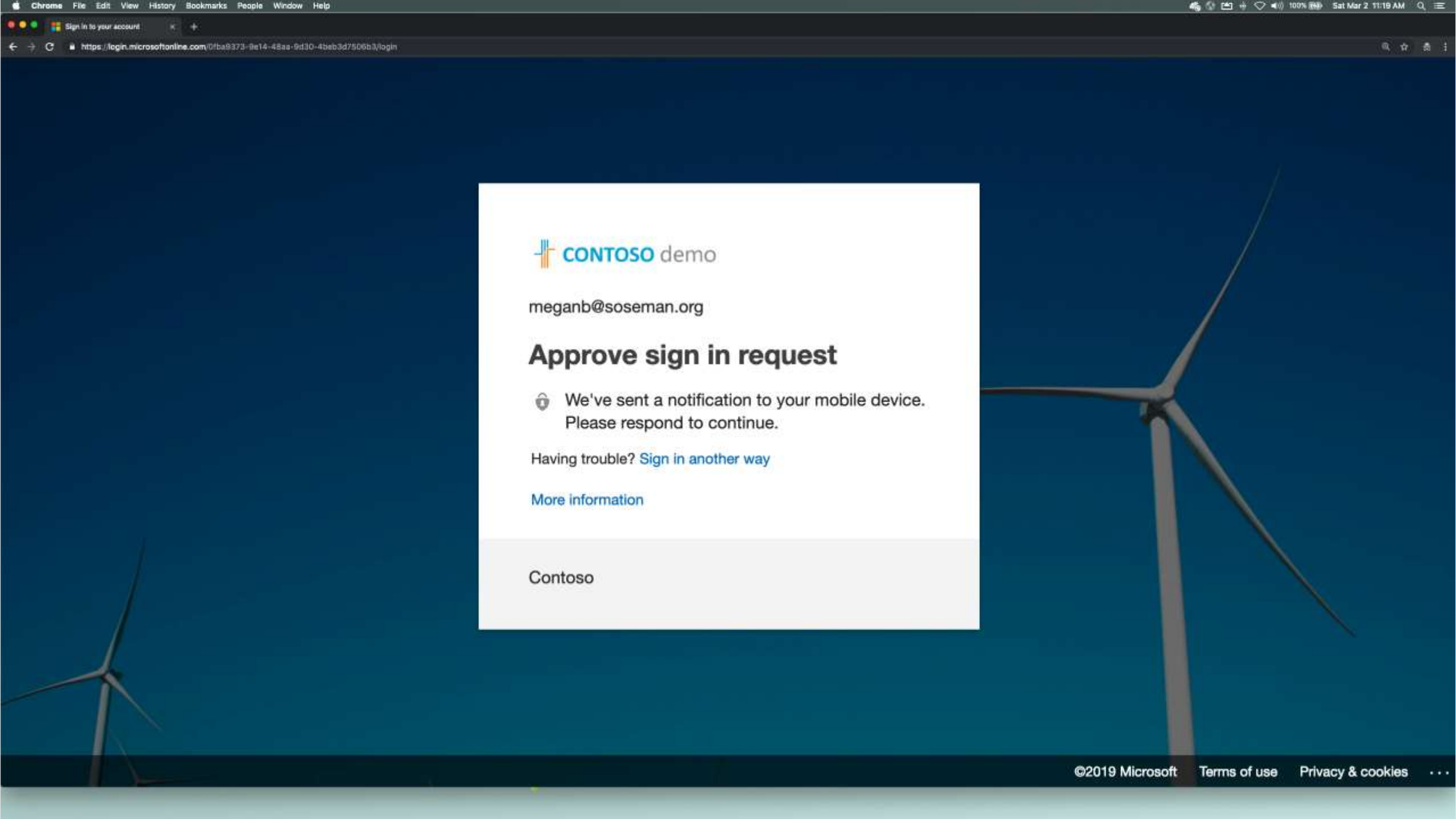
Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:19 AM
Sign in to your account
https://login.microsoftonline.com/0fba9373-9e14-48aa-9d30-4beb3d7506b3/login
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meganb@soseman.org
Approve sign in request
We've sent a notification to your mobile device. Please respond to continue.
Having trouble? Sign in another way
More information
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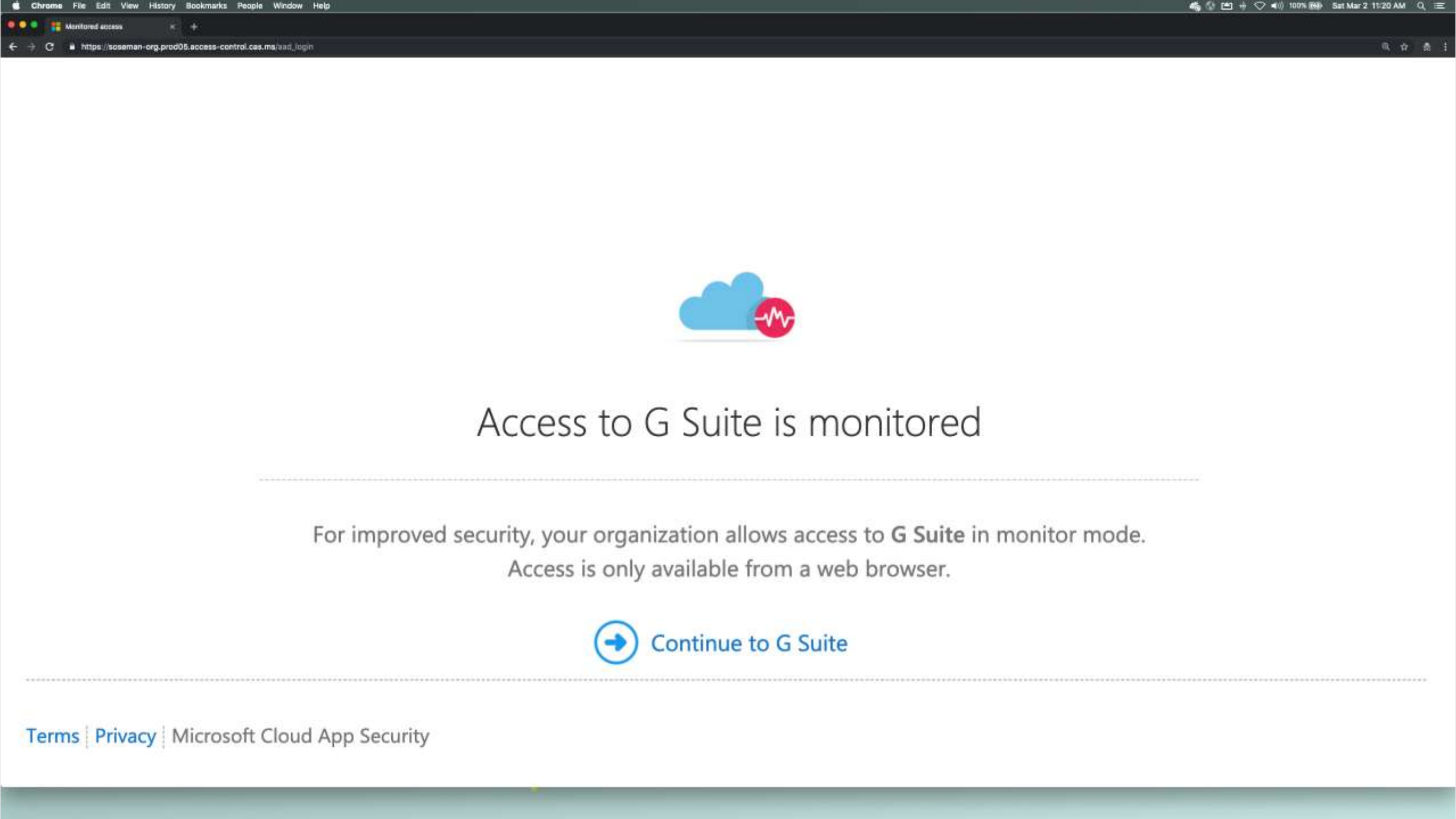
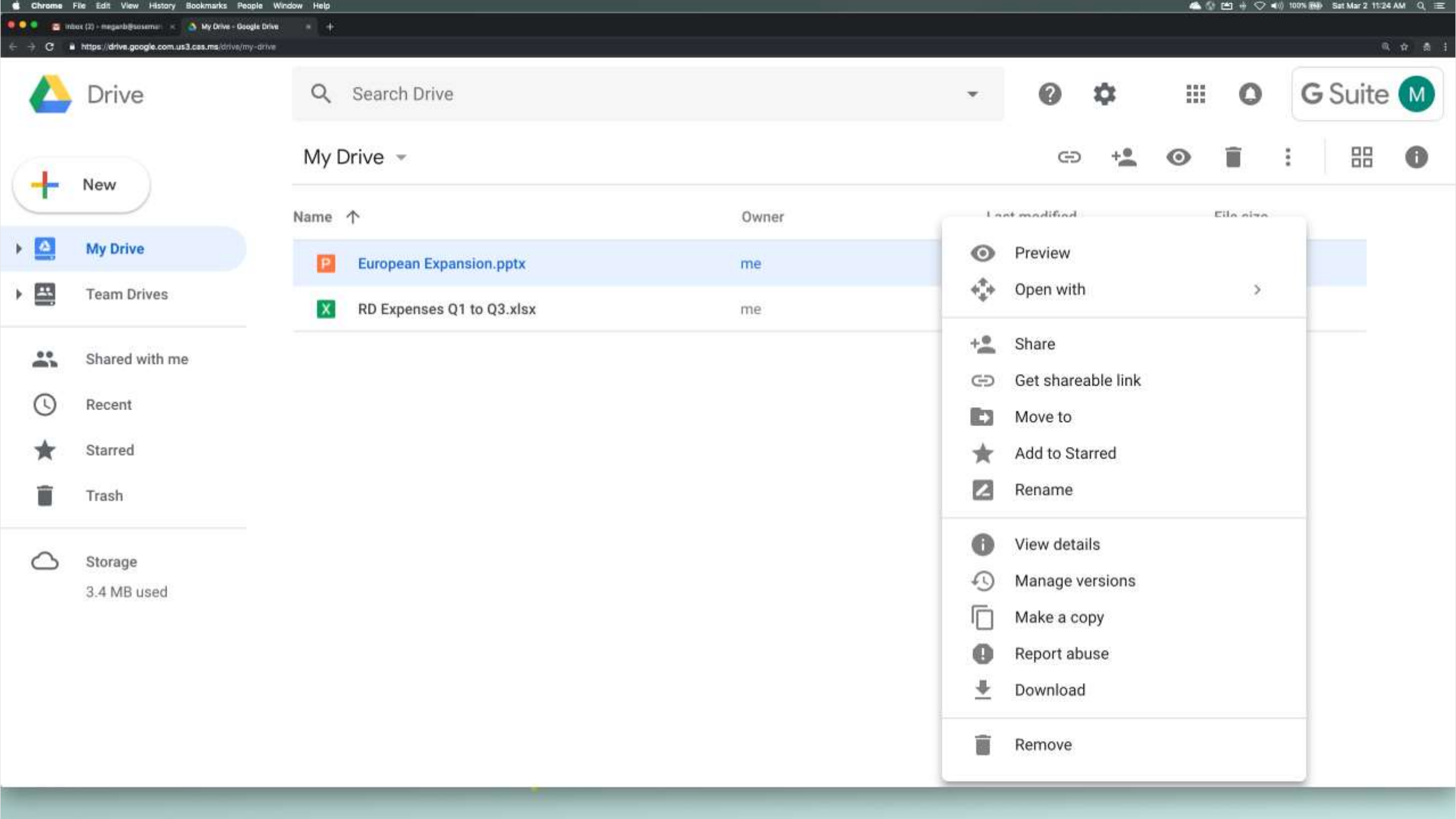
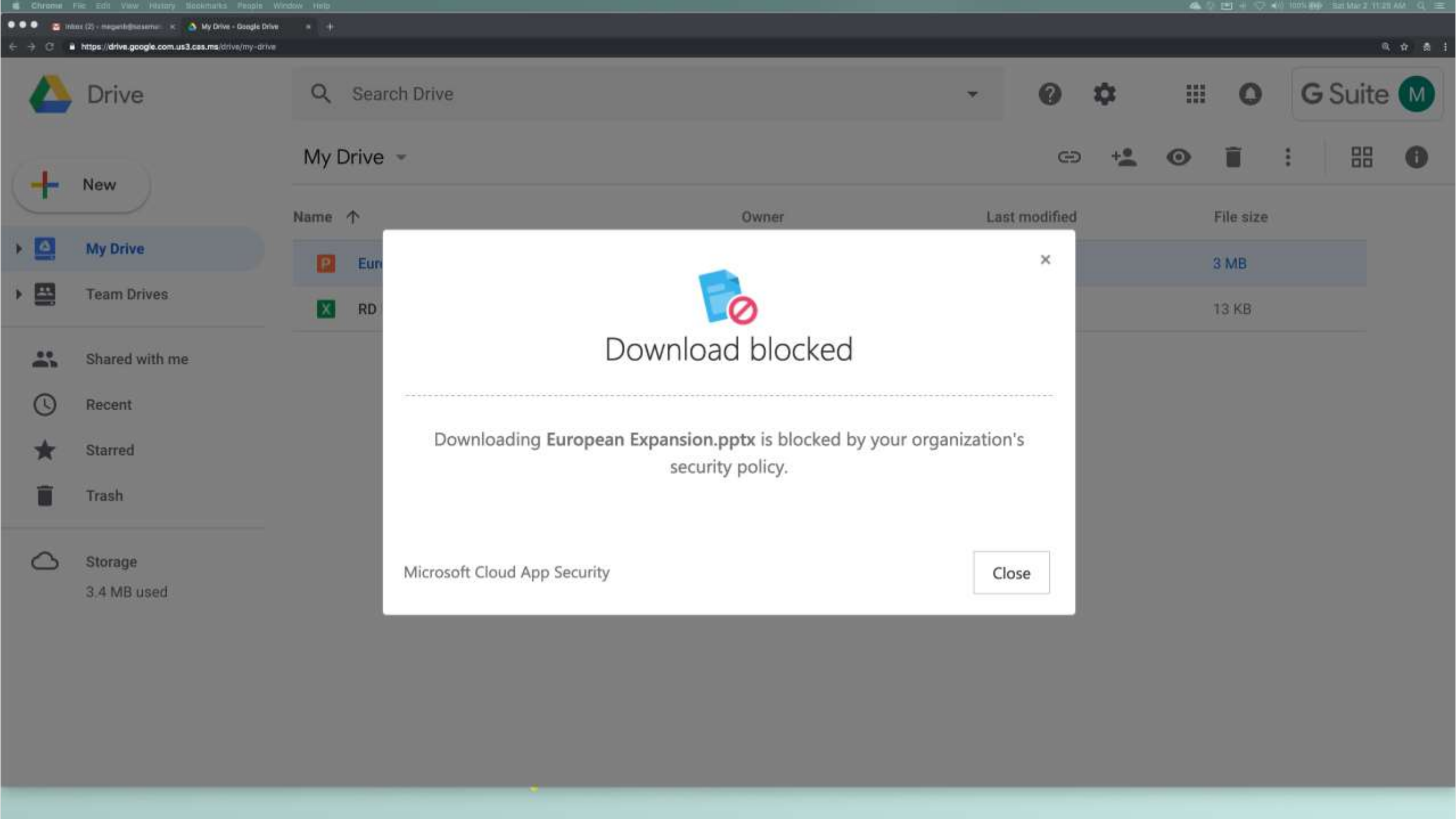
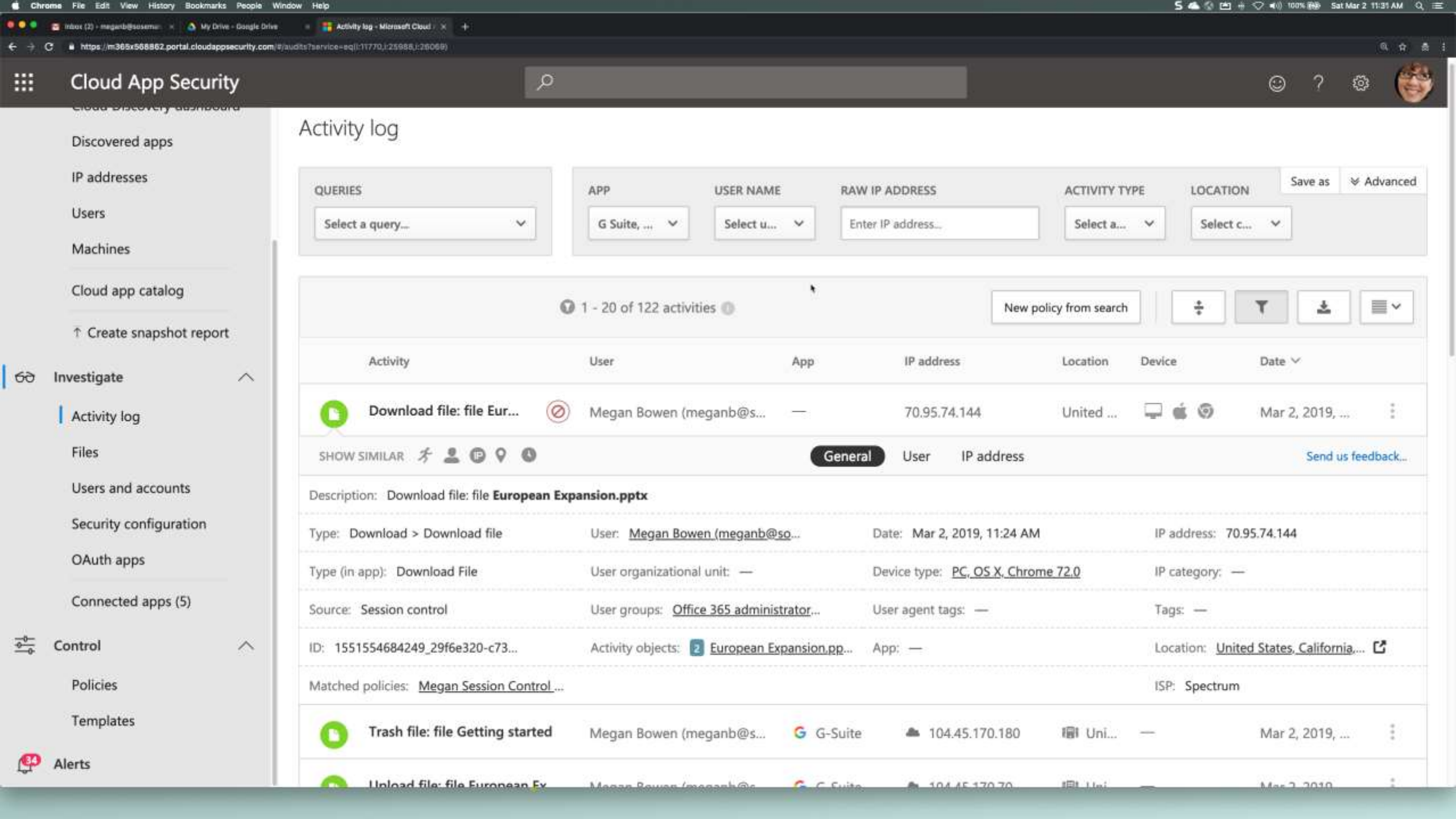

Chrome File Edit View History Bookmarks People Window Help
Sat Mar 2 11:20 AM
Monitored access
https://soseman-org.prod05.access-control.cas.ms/aad_login
Access to G Suite is monitored
For improved security, your organization allows access to G Suite in monitor mode.
Access is only available from a web browser.
Continue to G Suite
Terms
Privacy
Microsoft Cloud App Security


Drive
Search Drive
G Suite
M
My Drive
New
My Drive
Team Drives
Shared with me
Recent
Starred
Trash
Storage
3.4 MB used
Name
Owner
European Expansion.pptx
me
RD Expenses Q1 to Q3.xlsx
me
Preview
Open with
Share
Get shareable link
Move to
Add to Starred
Rename
View details
Manage versions
Make a copy
Report abuse
Download
Remove


Drive
Search Drive
G Suite
My Drive
New
Name
Owner
Last modified
File size
My Drive
Team Drives
Shared with me
Recent
Starred
Trash
Storage
3.4 MB used
3 MB
13 KB
Download blocked
Downloading European Expansion.pptx is blocked by your organization's security policy.
Microsoft Cloud App Security
Close


Cloud App Security
Discovered apps
IP addresses
Users
Machines
Cloud app catalog
Create snapshot report
Investigate
Activity log
Files
Users and accounts
Security configuration
OAuth apps
Connected apps (5)
Control
Policies
Templates
Alerts
Activity log
QUERIES
Select a query...
APP
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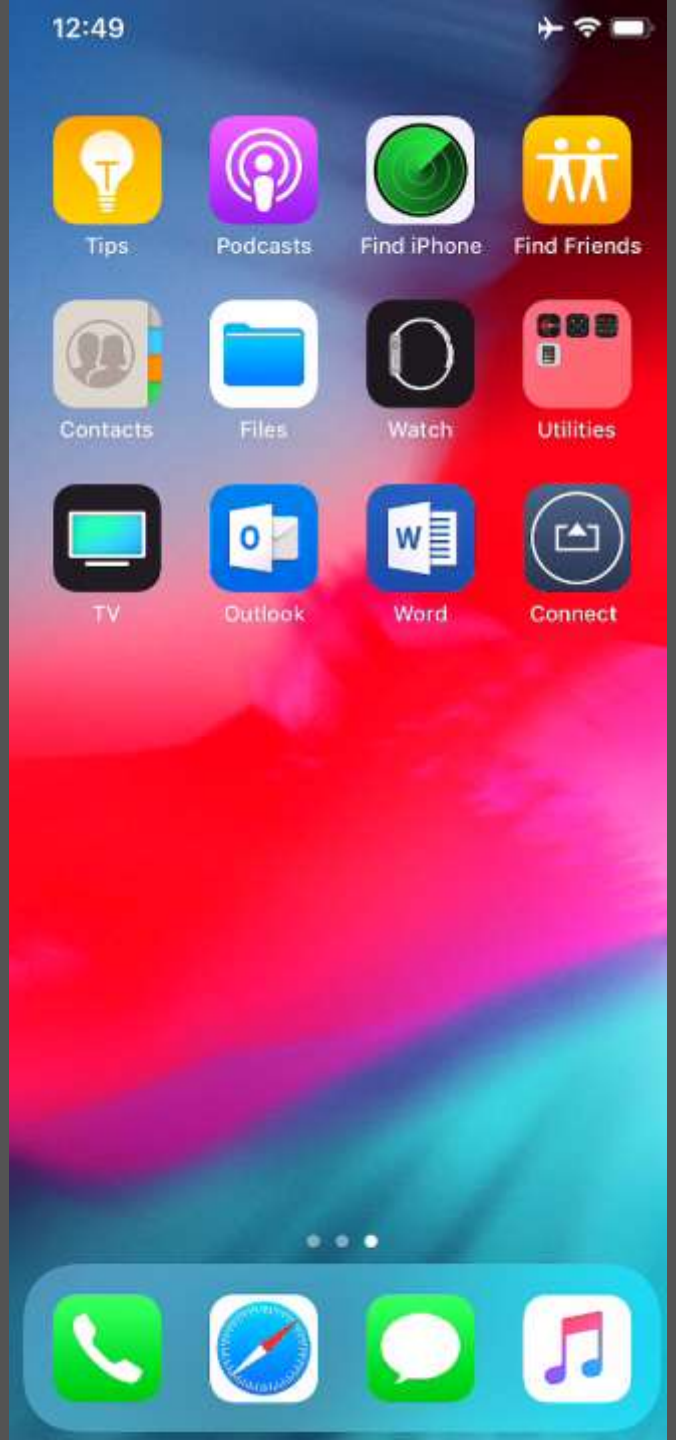
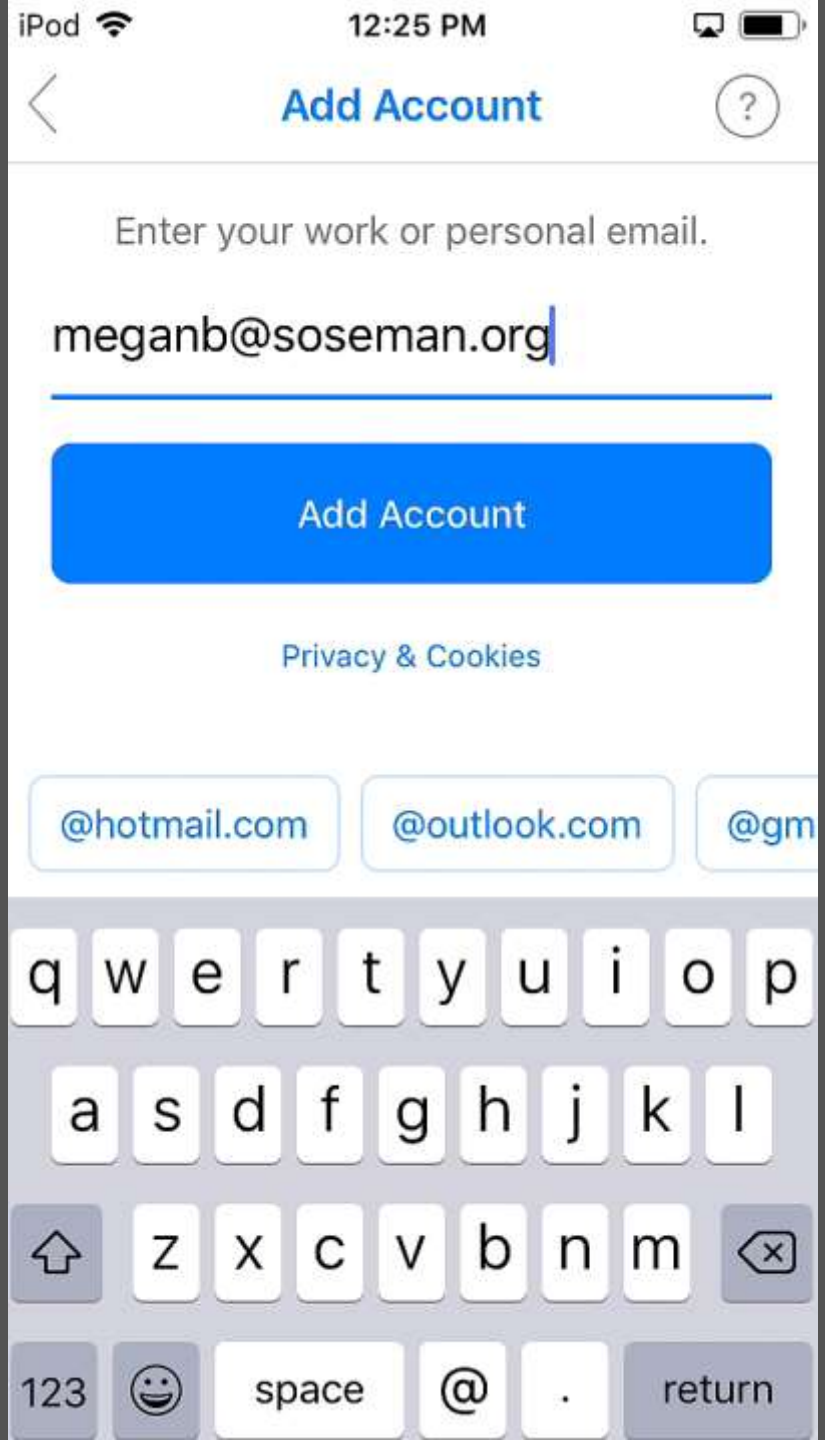
USER NAME
Select u...
RAW IP ADDRESS
Enter IP address...
ACTIVITY TYPE
Select a...
LOCATION
Select c...
Save as
Advanced
1 - 20 of 122 activities
New policy from search
Activity
User
App
IP address
Location
Device
Date
Download file: file Eur...
Megan Bowen (meganb@s...
70.95.74.144
United ...
Mar 2, 2019, ...
SHOW SIMILAR
General
User
IP address
Send us feedback...
Description: Download file: file European Expansion.pptx
Type: Download > Download file
User: Megan Bowen (meganb@so...
Date: Mar 2, 2019, 11:24 AM
IP address: 70.95.74.144
Type (in app): Download File
User organizational unit: —
Device type: PC, OS X, Chrome 72.0
IP category: —
Source: Session control
User groups: Office 365 administrator...
User agent tags: —
Tags: —
ID: 1551554684249_29f6e320-c73...
Activity objects: European Expansion.pp...
App: —
Location: United States, California,...
Matched policies: Megan Session Control ...
ISP: Spectrum
Trash file: file Getting started
Megan Bowen (meganb@s...
G-Suite
104.45.170.180
Uni...
Mar 2, 2019, ...
Upload file: file European Ex

Demo

Govern data access on unmanaged device by protecting data in the managed app


12:49
Tips
Podcasts
Find iPhone
Find Friends
Contacts
Files
Watch
Utilities
TV
Outlook
Word
Connect


iPod
12:25 PM
Add Account
Enter your work or personal email.
meganb@soseman.org
Add Account
Privacy & Cookies
@hotmail.com
@outlook.com
@gm
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
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space
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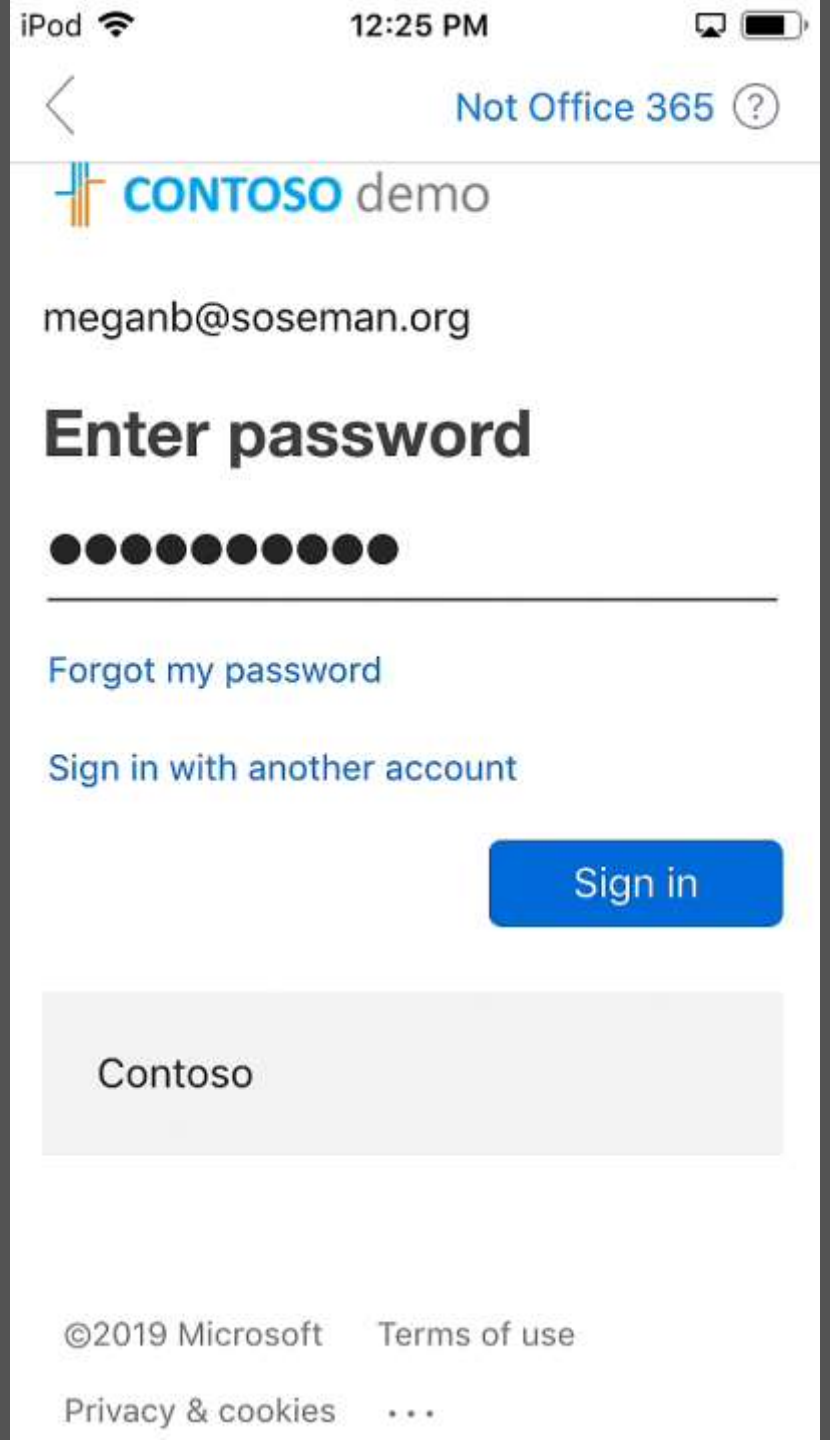
iPod
12:25 PM
Not Office 365
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meganb@soseman.org
Enter password
Forgot my password
Sign in with another account
Sign in
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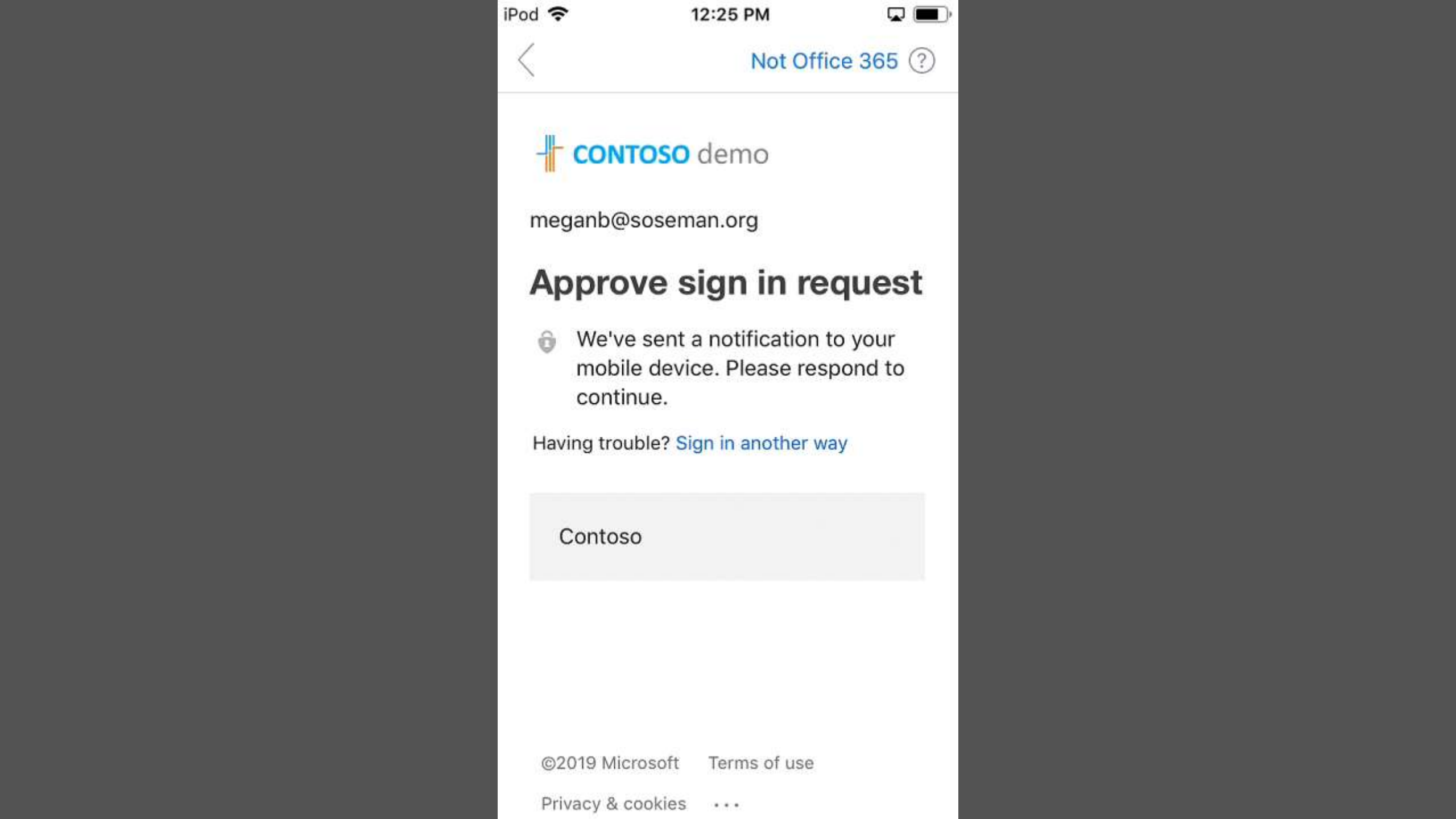
iPod
12:25 PM
Not Office 365
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Approve sign in request
We've sent a notification to your mobile device. Please respond to continue.
Having trouble? Sign in another way
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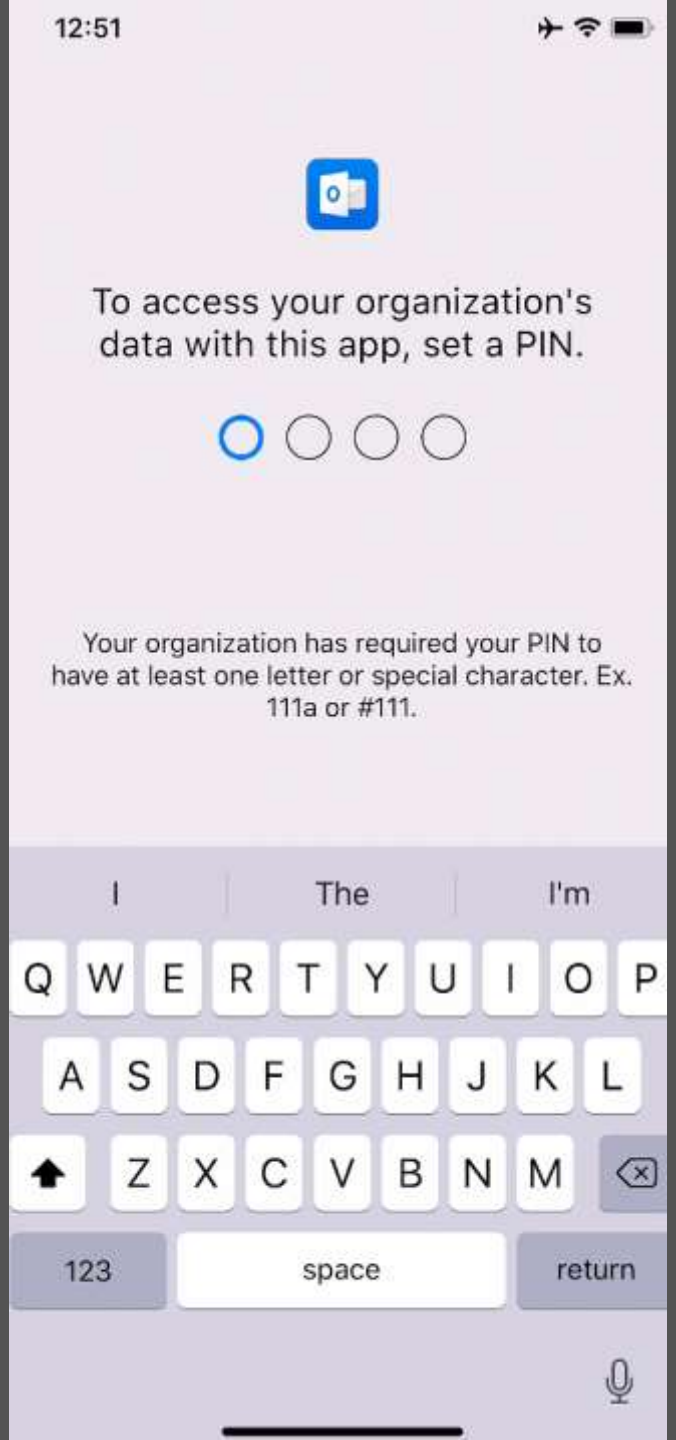
12:50

Focused Inbox

Find the email you need to act on right here.

Skip


12:51
To access your organization's data with this app, set a PIN.
Your organization has required your PIN to have at least one letter or special character. Ex. 111a or #111.
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Q W E R T Y U I O P
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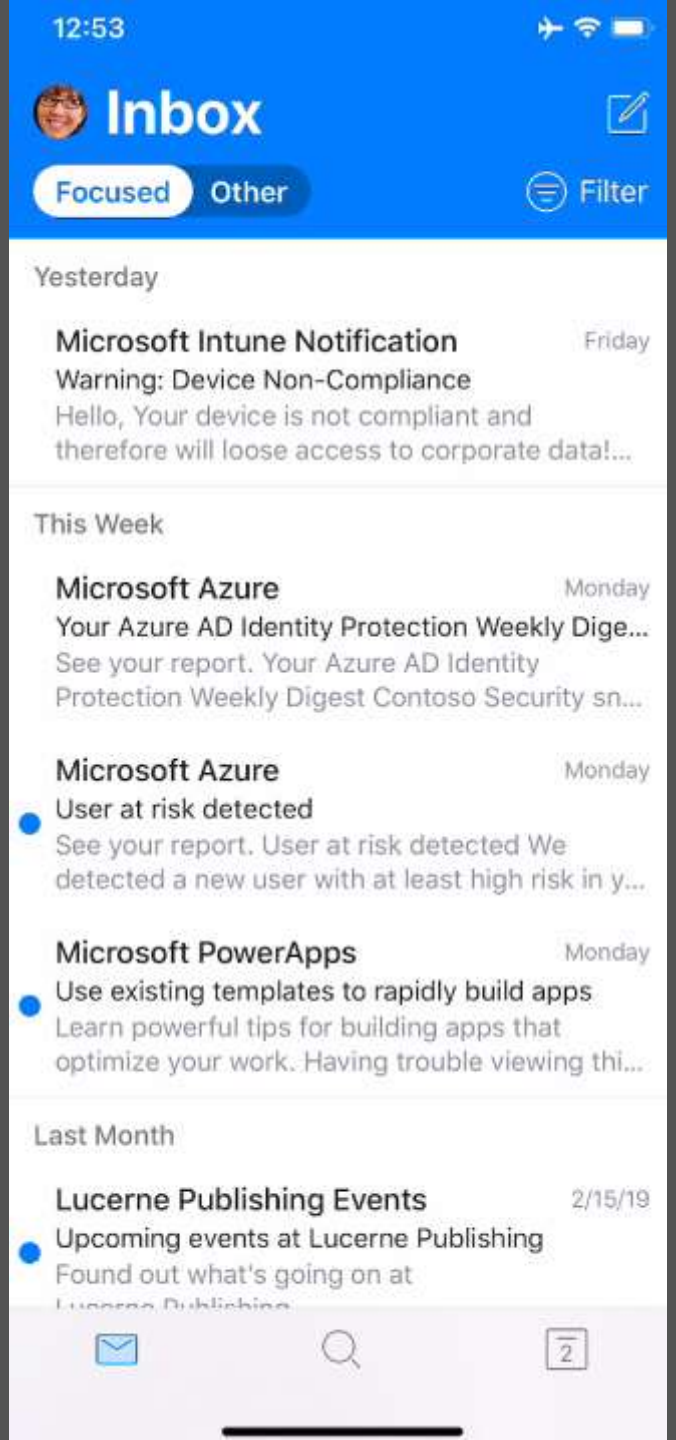
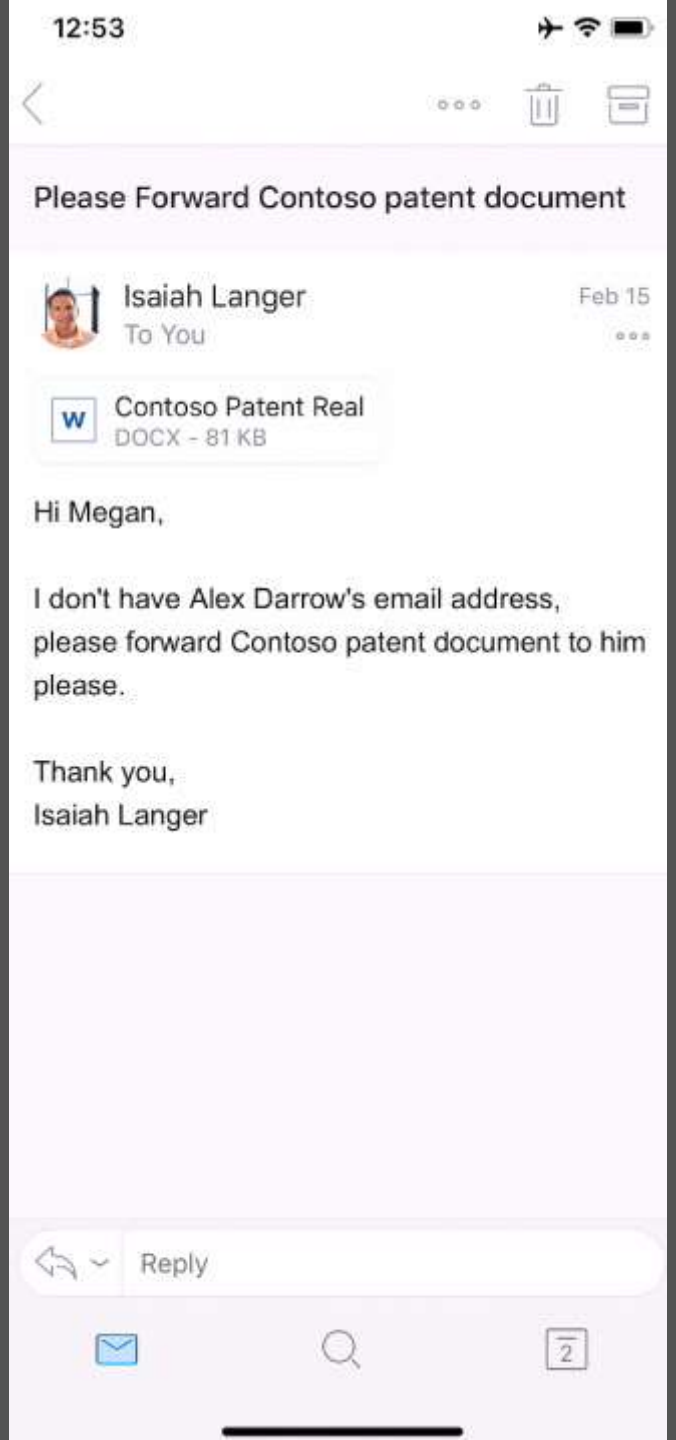
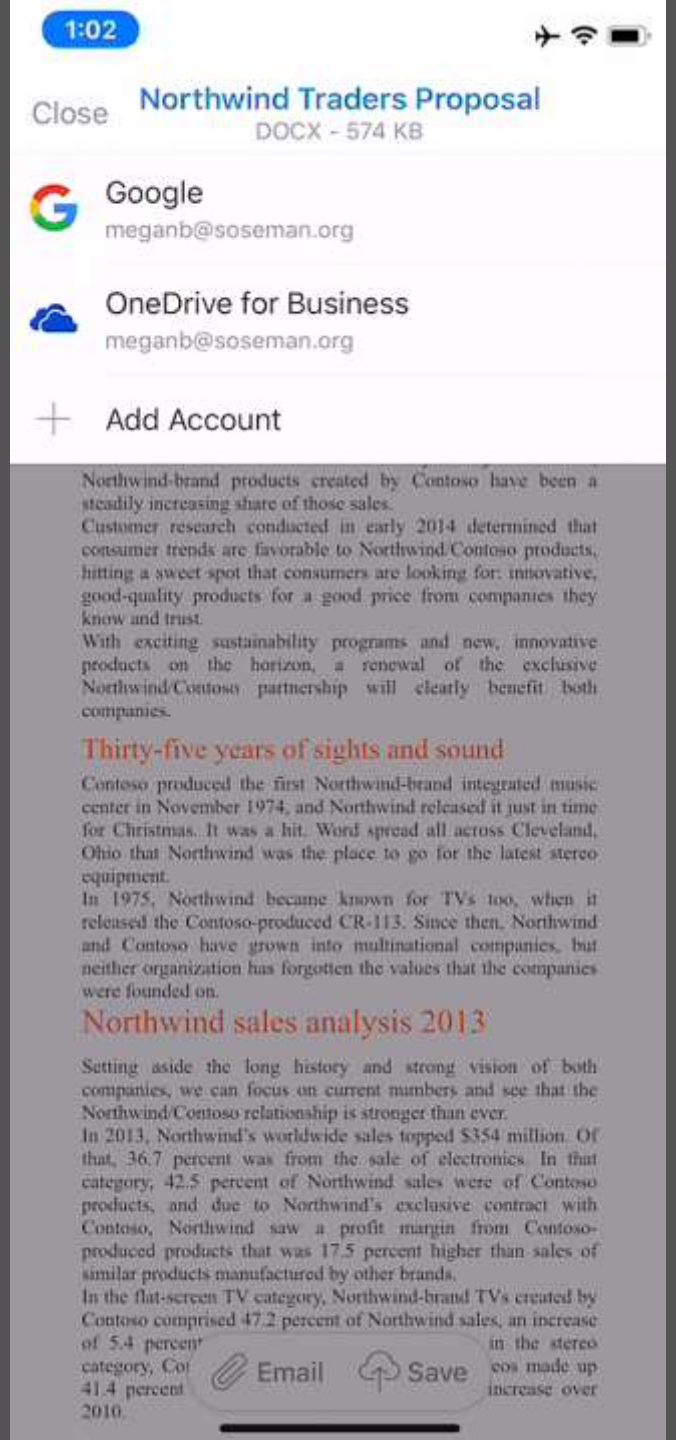

12:53
Inbox
Focused
Other
Filter
Yesterday
Microsoft Intune Notification
Friday
Warning: Device Non-Compliance
Hello, Your device is not compliant and therefore will loose access to corporate data!...
This Week
Microsoft Azure
Monday
Your Azure AD Identity Protection Weekly Dige...
See your report. Your Azure AD Identity Protection Weekly Digest Contoso Security sn...
Microsoft Azure
Monday
User at risk detected
See your report. User at risk detected We detected a new user with at least high risk in y...
Microsoft PowerApps
Monday
Use existing templates to rapidly build apps
Learn powerful tips for building apps that optimize your work. Having trouble viewing thi...
Last Month
Lucerne Publishing Events
2/15/19
Upcoming events at Lucerne Publishing
Found out what's going on at


12:53
Please Forward Contoso patent document
Isaiah Langer
To You
Feb 15
Contoso Patent Real
DOCX - 81 KB
Hi Megan,
I don't have Alex Darrow's email address, please forward Contoso patent document to him please.
Thank you,
Isaiah Langer
Reply


1:02
Close
Northwind Traders Proposal
DOCX - 574 KB
Google
meganb@soseman.org
OneDrive for Business
meganb@soseman.org
Add Account
Northwind-brand products created by Contoso have been a steadily increasing share of those sales.
Customer research conducted in early 2014 determined that consumer trends are favorable to Northwind/Contoso products, hitting a sweet spot that consumers are looking for: innovative, good-quality products for a good price from companies they know and trust.
With exciting sustainability programs and new, innovative products on the horizon, a renewal of the exclusive Northwind/Contoso partnership will clearly benefit both companies.
Thirty-five years of sights and sound
Contoso produced the first Northwind-brand integrated music center in November 1974, and Northwind released it just in time for Christmas. It was a hit. Word spread all across Cleveland, Ohio that Northwind was the place to go for the latest stereo equipment.
In 1975, Northwind became known for TVs too, when it released the Contoso-produced CR-113. Since then, Northwind and Contoso have grown into multinational companies, but neither organization has forgotten the values that the companies were founded on.
Northwind sales analysis 2013
Setting aside the long history and strong vision of both companies, we can focus on current numbers and see that the Northwind/Contoso relationship is stronger than ever.
In 2013, Northwind's worldwide sales topped $354 million. Of that, 36.7 percent was from the sale of electronics. In that category, 42.5 percent of Northwind sales were of Contoso products, and due to Northwind's exclusive contract with Contoso, Northwind saw a profit margin from Contoso-produced products that was 17.5 percent higher than sales of similar products manufactured by other brands.
In the flat-screen TV category, Northwind-brand TVs created by Contoso comprised 47.2 percent of Northwind sales, an increase
of 5.4 percen
in the stereo
category, Co
eos made up
41.4 percent
increase over
2010.
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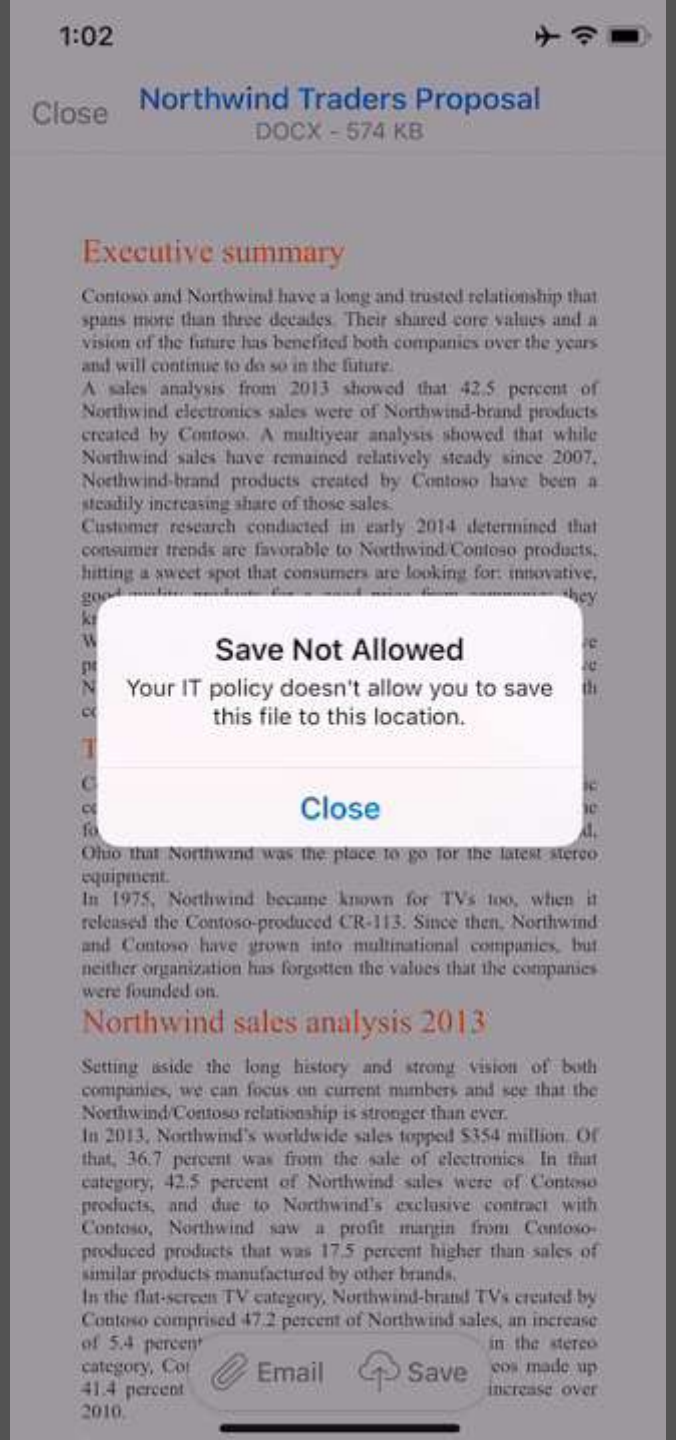
1:02
Close
Northwind Traders Proposal
DOCX - 574 KB
Executive summary
Contoso and Northwind have a long and trusted relationship that spans more than three decades. Their shared core values and a vision of the future has benefited both companies over the years and will continue to do so in the future.
A sales analysis from 2013 showed that 42.5 percent of Northwind electronics sales were of Northwind-brand products created by Contoso. A multiyear analysis showed that while Northwind sales have remained relatively steady since 2007, Northwind-brand products created by Contoso have been a steadily increasing share of those sales.
Customer research conducted in early 2014 determined that consumer trends are favorable to Northwind/Contoso products, hitting a sweet spot that consumers are looking for: innovative,
Save Not Allowed
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Close
Ohio that Northwind was the place to go for the latest stereo equipment.
In 1975, Northwind became known for TVs too, when it released the Contoso-produced CR-113. Since then, Northwind and Contoso have grown into multinational companies, but neither organization has forgotten the values that the companies were founded on.
Northwind sales analysis 2013
Setting aside the long history and strong vision of both companies, we can focus on current numbers and see that the Northwind/Contoso relationship is stronger than ever.
In 2013, Northwind's worldwide sales topped $354 million. Of that, 36.7 percent was from the sale of electronics. In that category, 42.5 percent of Northwind sales were of Contoso products, and due to Northwind's exclusive contract with Contoso, Northwind saw a profit margin from Contoso-produced products that was 17.5 percent higher than sales of similar products manufactured by other brands.
In the flat-screen TV category, Northwind-brand TVs created by Contoso comprised 47.2 percent of Northwind sales, an increase
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2010.

Executive summary

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Contoso ...onship
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...ision of the future has benefited both companies over the y
...nd will continue to do so in the future.

A sales analysis from 2013 showed that 42.5 percen
Northwind electronics sales were of Northwind-brand proc
created by Contoso. A multiyear analysis showed that v
Northwind sales have remained relatively steady since 2
Northwind-brand products created by Contoso have be
steadily increasing share of those sales.

Customer research conducted in early 2014 determined
consumer trends are favorable to Northwind/Contoso prod
hitting a sweet spot that consumers are looking for: innova
good-quality products for a good price from companies
know and trust.

With exciting sustainability programs and new, innov
products on the horizon, a renewal of the exclu
Northwind/Contoso partnership will clearly benefit
companies.

Thirty-five years of sights and sound

Contoso produced the first Northwind-brand integrated n
center in November 1974, and Northwind released it just in
for Christmas. It was a hit. Word spread all across Cleve
Ohio that Northwind was the place to go for the latest s
equipment.

In 1975, Northwind became known for TVs too, whe
released the Contoso-produced CR-113. Since then, North
and Contoso have grown into multinational companies,
neither organization has forgotten the values that the compa
were founded on.

Northwind sales analysis 2013

Setting aside the long history and strong vision of
companies, we can focus on current numbers and see tha
Northwind/Contoso relationship is stronger than ever.

In 2013, Northwind's worldwide sales topped $354 millior
that, 36.7 ...of electronics. In
category, ...ales were of Cor
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1:03
FaceTime
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Maps
Weather
Notes
Reminders
News
Stocks
iTunes Store
App Store
Books
Health
Home
Wallet
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Settings


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Notes
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Z X C V B N M
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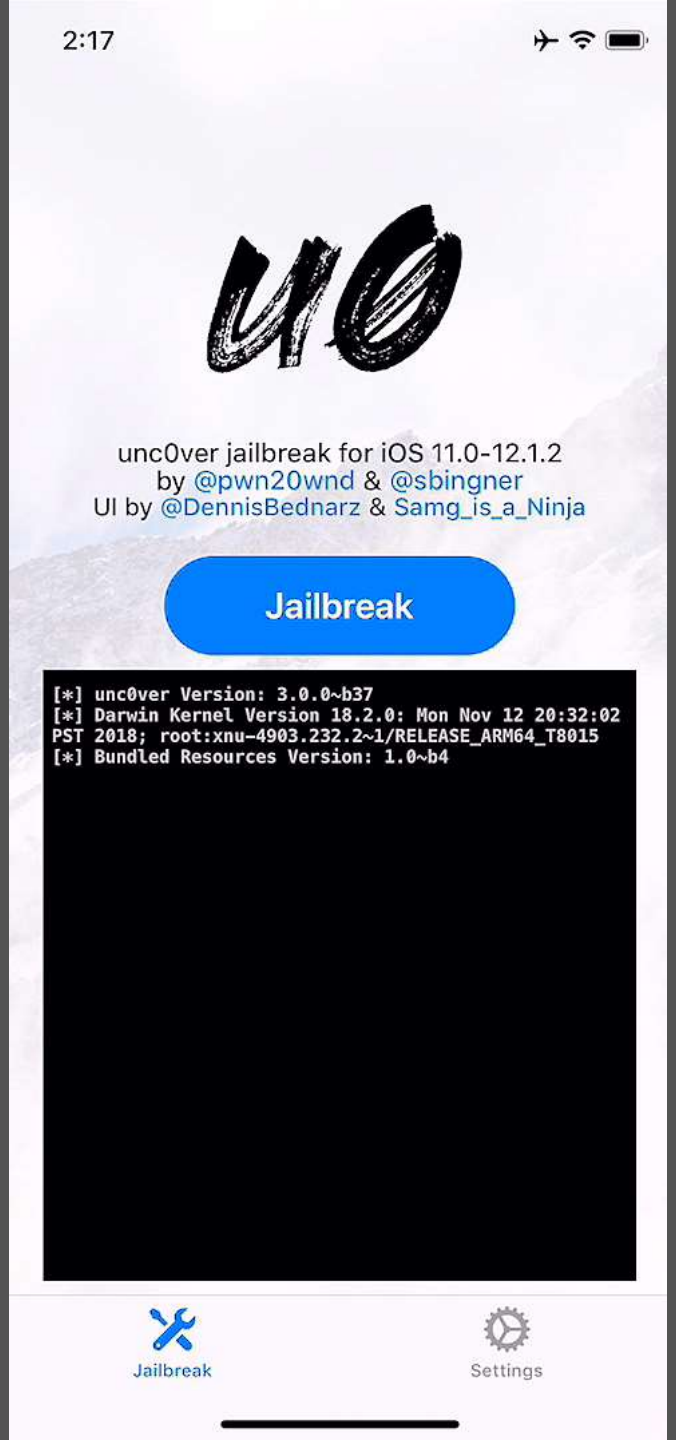
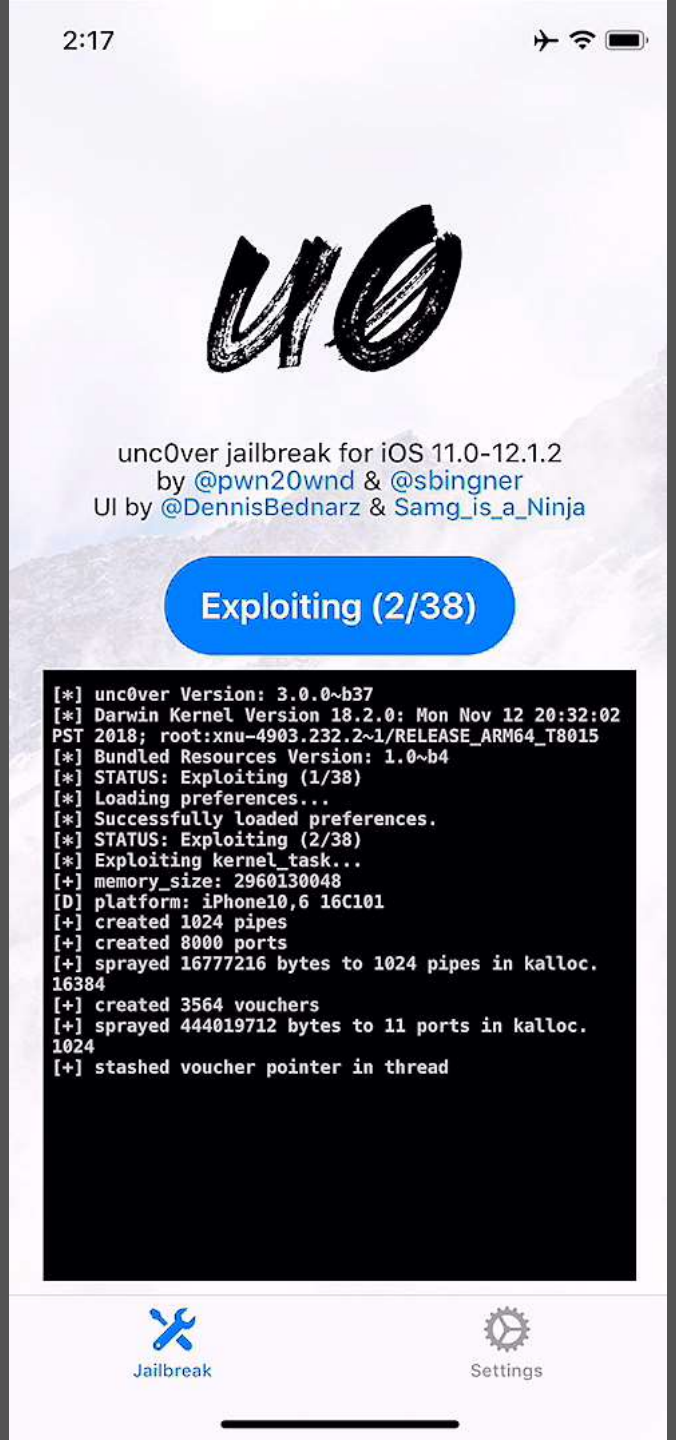
return

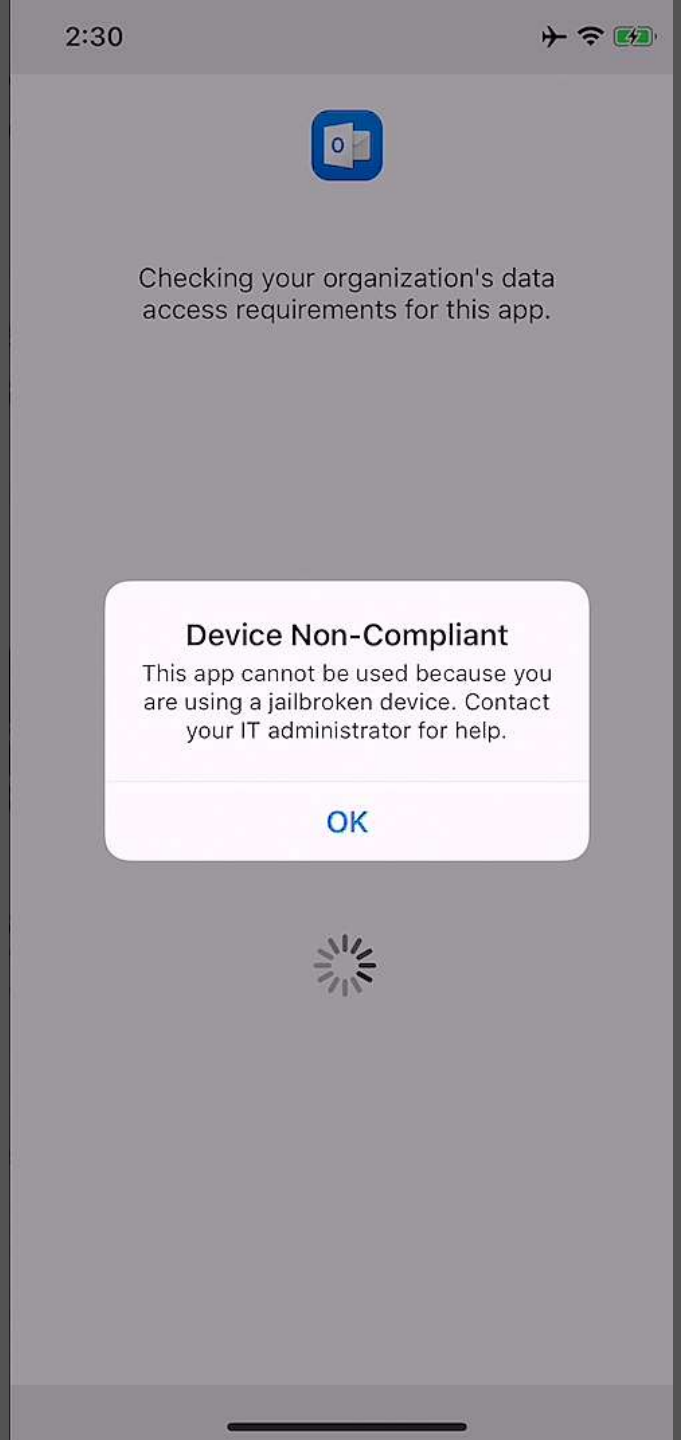
Demo

Deny access to applications when device “jailbroken” or “rooted”


2:17
unc0ver jailbreak for iOS 11.0-12.1.2
by @pwn20wnd & @sbingner
UI by @DennisBednarz & Samg_is_a_Ninja
Jailbreak
[*] unc0ver Version: 3.0.0~b37
[*] Darwin Kernel Version 18.2.0: Mon Nov 12 20:32:02 PST 2018; root:xnu-4903.232.2~1/RELEASE_ARM64_T8015
[*] Bundled Resources Version: 1.0~b4
Jailbreak
Settings


2:17
unc0ver jailbreak for iOS 11.0-12.1.2
by @pwn20wnd & @sbingner
UI by @DennisBednarz & Samg_is_a_Ninja
Exploiting (2/38)
[*] unc0ver Version: 3.0.0~b37
[*] Darwin Kernel Version 18.2.0: Mon Nov 12 20:32:02 PST 2018; root:xnu-4903.232.2~1/RELEASE_ARM64_T8015
[*] Bundled Resources Version: 1.0~b4
[*] STATUS: Exploiting (1/38)
[*] Loading preferences...
[*] Successfully loaded preferences.
[*] STATUS: Exploiting (2/38)
[*] Exploiting kernel_task...
[+] memory_size: 2960130048
[D] platform: iPhone10,6 16C101
[+] created 1024 pipes
[+] created 8000 ports
[+] sprayed 16777216 bytes to 1024 pipes in kalloc. 16384
[+] created 3564 vouchers
[+] sprayed 444019712 bytes to 11 ports in kalloc. 1024
[+] stashed voucher pointer in thread
Jailbreak
Settings


2:29
Tips
Podcasts
Find iPhone
Find Friends
Contacts
Files
Watch
Utilities
45
TV
Outlook
Word
Connect
box
Box for EMM
Cydia


2:30
Checking your organization's data access requirements for this app.
Device Non-Compliant
This app cannot be used because you are using a jailbroken device. Contact your IT administrator for help.
OK

Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Azure Active Directory
Azure Information Protecti...
Intune
Azure AD Identity Protecti...

Client apps - App protection status

Microsoft Intune

Search (Ctrl+/)

Overview

Manage

Apps
App protection policies
App configuration policies
App selective wipe
iOS app provisioning profiles

Monitor

App licenses
Discovered apps
App install status
App protection status
Audit logs

Setup

iOS VPP tokens
Windows enterprise certificate
Windows Symantec certificate
Microsoft Store for Business

Reports
App protection report: iOS, ...
App protection report: WIP ...
App protection report: WIP v...
App configuration report

Assigned users

Protected and licensed
9

Unprotected and unlicensed
1

Flagged users

1 Users

User status for iOS

Managed by policy
1

No policy
0

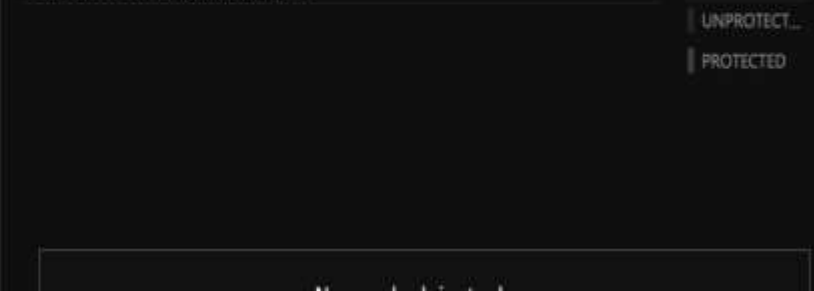
User status for Android

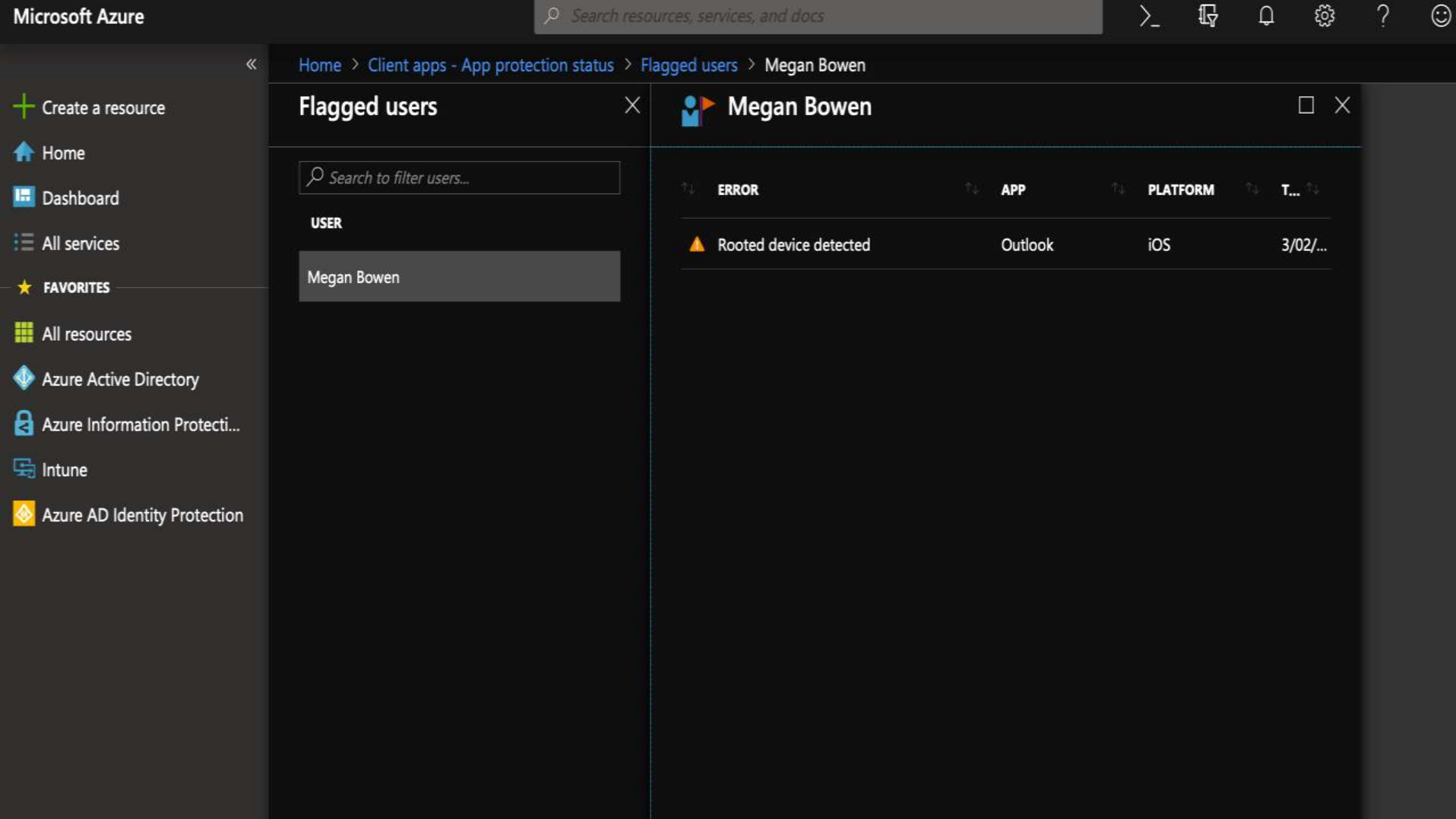
Managed by policy
0

No policy
0

Top Protected iOS Apps

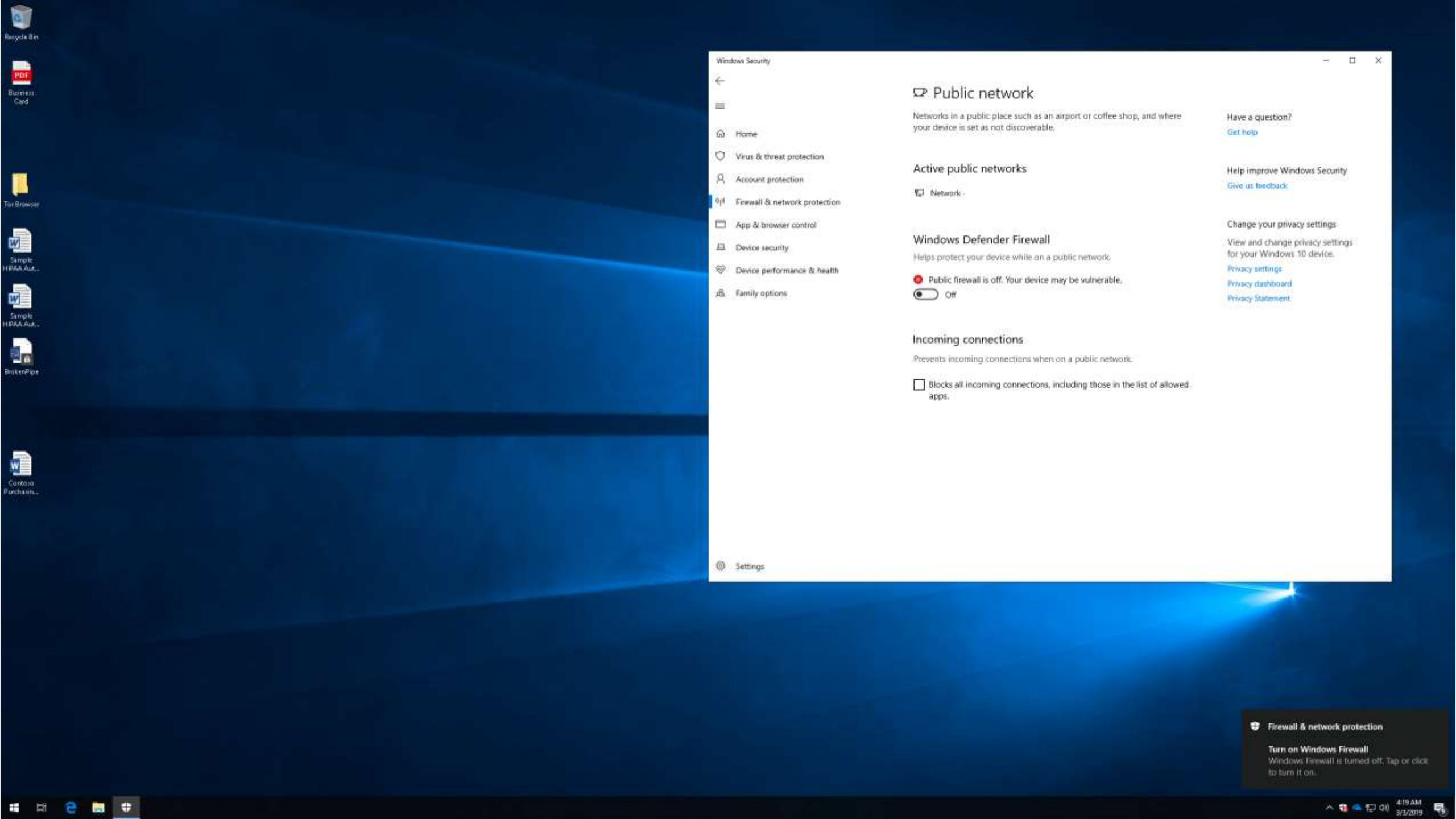
Top Protected Android Apps

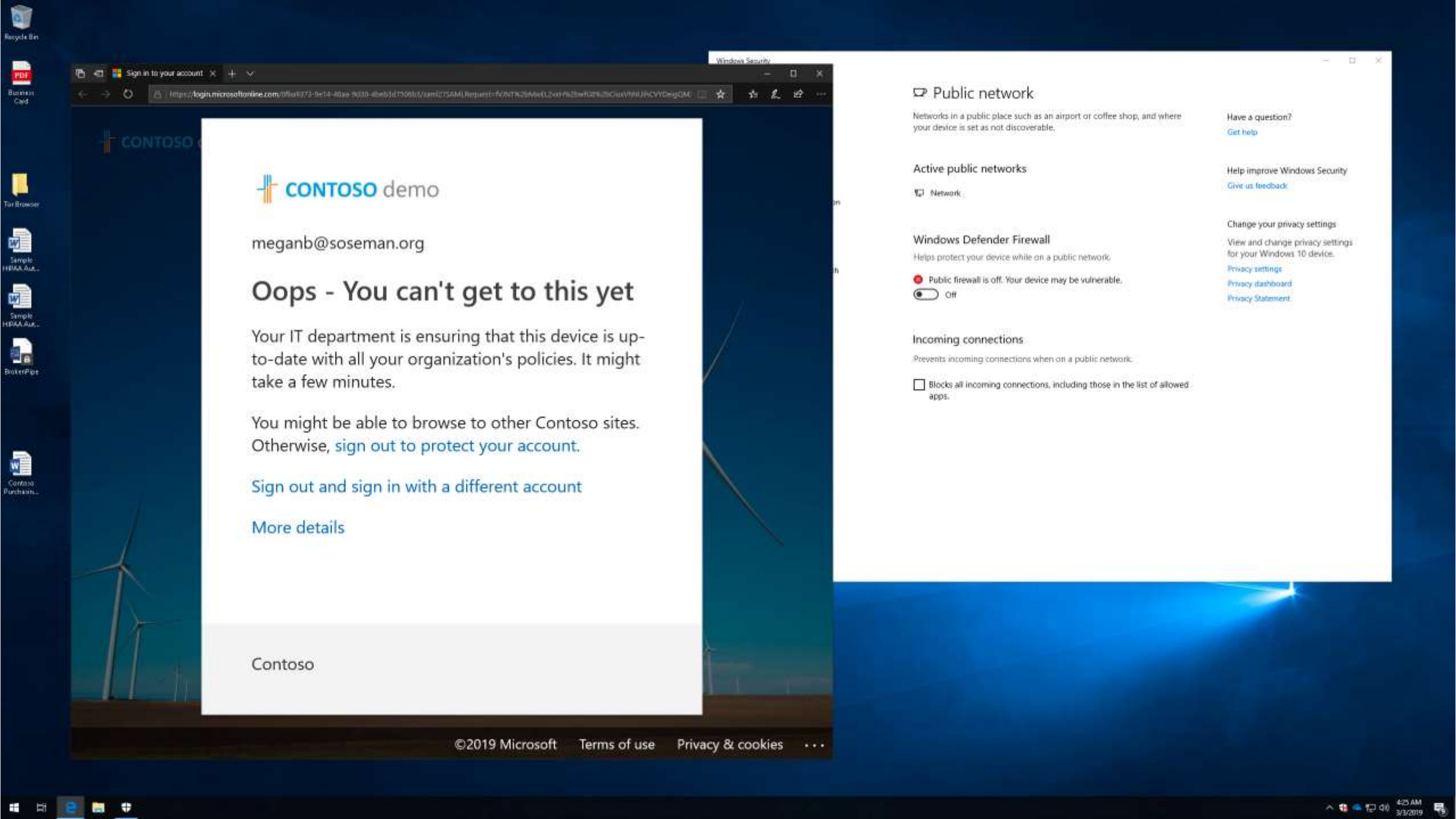



Microsoft Azure
Search resources, services, and docs
Home > Client apps - App protection status > Flagged users > Megan Bowen
Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Azure Active Directory
Azure Information Protecti...
Intune
Azure AD Identity Protection
Flagged users
Search to filter users...
USER
Megan Bowen
Megan Bowen
ERROR
APP
PLATFORM
T...
Rooted device detected
Outlook
iOS
3/02/...

Demo

Deny access to applications when device is not compliant (i.e. a policy is violated or a threat exists)


Recycle Bin
Business Card
Tor Browser
Sample HIPAA Aut...
Sample HIPAA Aut...
BrokerPipe
Contoso Purchasin...
Windows Security
Public network
Networks in a public place such as an airport or coffee shop, and where your device is set as not discoverable.
Active public networks
Network
Windows Defender Firewall
Helps protect your device while on a public network.
Public firewall is off. Your device may be vulnerable.
Off
Incoming connections
Prevents incoming connections when on a public network.
Blocks all incoming connections, including those in the list of allowed apps.
Have a question?
Get help
Help improve Windows Security
Give us feedback
Change your privacy settings
View and change privacy settings for your Windows 10 device.
Privacy settings
Privacy dashboard
Privacy Statement
Home
Virus & threat protection
Account protection
Firewall & network protection
App & browser control
Device security
Device performance & health
Family options
Settings
Firewall & network protection
Turn on Windows Firewall
Windows Firewall is turned off. Tap or click to turn it on.
4:19 AM
3/3/2019


Recycle Bin
Business Card
Tor Browser
Sample HIPAA Aut...
Sample HIPAA Aut...
BrokerPipe
Contoso Purchasin...
Sign in to your account
CONTOSO demo
meganb@soseman.org
Oops - You can't get to this yet
Your IT department is ensuring that this device is up-to-date with all your organization's policies. It might take a few minutes.
You might be able to browse to other Contoso sites. Otherwise, sign out to protect your account.
Sign out and sign in with a different account
More details
Contoso
©2019 Microsoft
Terms of use
Privacy & cookies
Windows Security
Public network
Networks in a public place such as an airport or coffee shop, and where your device is set as not discoverable.
Active public networks
Network
Windows Defender Firewall
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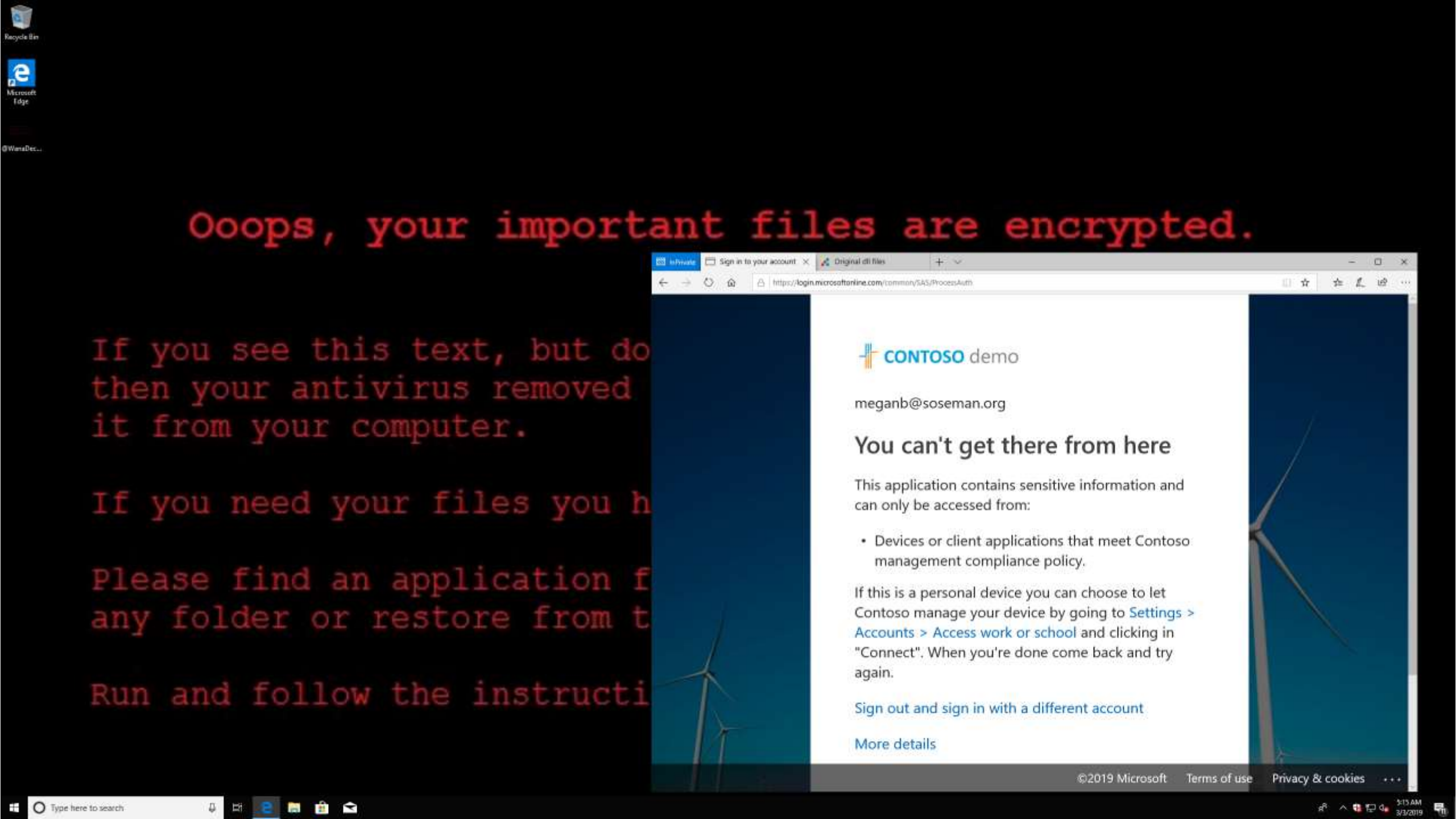
Blocks all incoming connections, including those in the list of allowed apps.
Have a question?
Get help
Help improve Windows Security
Give us feedback
Change your privacy settings
View and change privacy settings for your Windows 10 device.
Privacy settings
Privacy dashboard
Privacy Statement
4:25 AM
3/3/2019


Recycle Bin
Microsoft Edge
@WanaDec...
Ooops, your important files are encrypted.
If you see this text, but do
then your antivirus removed
it from your computer.
If you need your files you h
Please find an application f
any folder or restore from t
Run and follow the instructi
InPrivate
Sign in to your account
Original dll files
https://login.microsoftonline.com/common/SAS/ProcessAuth
CONTOSO demo
meganb@soseman.org
You can't get there from here
This application contains sensitive information and can only be accessed from:
• Devices or client applications that meet Contoso management compliance policy.
If this is a personal device you can choose to let Contoso manage your device by going to Settings > Accounts > Access work or school and clicking in "Connect". When you're done come back and try again.
Sign out and sign in with a different account
More details
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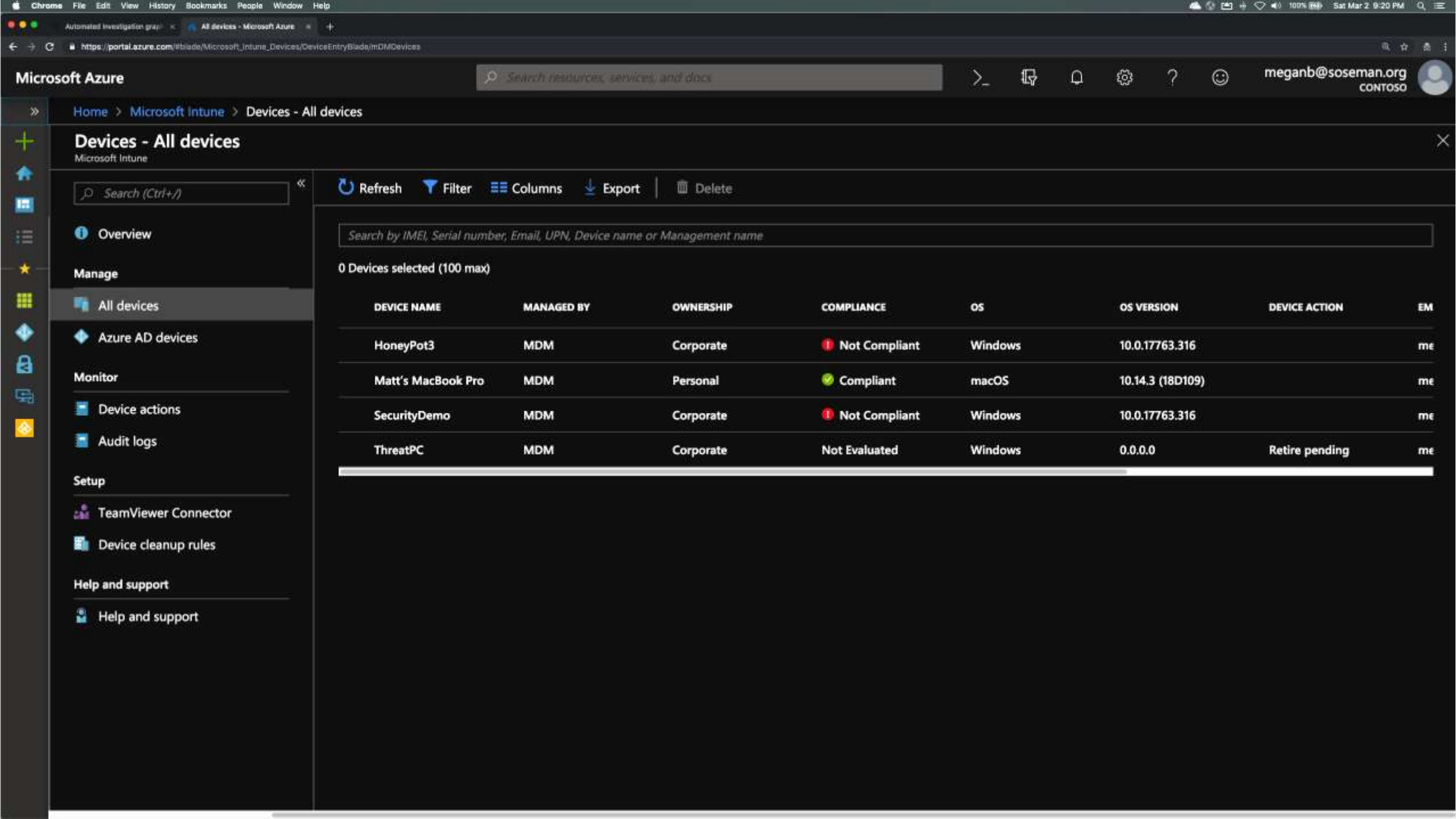
Terms of use
Privacy & cookies
Type here to search


Microsoft Azure
Search resources, services, and docs
meganb@soseman.org
CONTOSO
Home > Microsoft Intune > Devices - All devices
Devices - All devices
Microsoft Intune
Search (Ctrl+/)
Overview
Manage
All devices
Azure AD devices
Monitor
Device actions
Audit logs
Setup
TeamViewer Connector
Device cleanup rules
Help and support
Help and support
Refresh
Filter
Columns
Export
Delete
Search by IMEI, Serial number, Email, UPN, Device name or Management name
0 Devices selected (100 max)
DEVICE NAME
MANAGED BY
OWNERSHIP
COMPLIANCE
OS
OS VERSION
DEVICE ACTION
EM
HoneyPot3
MDM
Corporate
Not Compliant
Windows
10.0.17763.316
Matt's MacBook Pro
MDM
Personal
Compliant
macOS
10.14.3 (18D109)
SecurityDemo
MDM
Corporate
Not Compliant
Windows
10.0.17763.316
ThreatPC
MDM
Corporate
Not Evaluated
Windows
0.0.0.0
Retire pending

Suspicious process injection observed

Investigation #1 is running - Waiting for machine

Started
Mar 1, 2019, 4:36:22 AM

Total pending time: 1:14h

2:00:43:39
Waiting for machine

Cancel Investigation

Comments (0)

Investigation details

Status

Waiting for machine

Investigation paused. The investigation will resume as soon as the machine is available.

Alert severity

Medium

Category

Installation

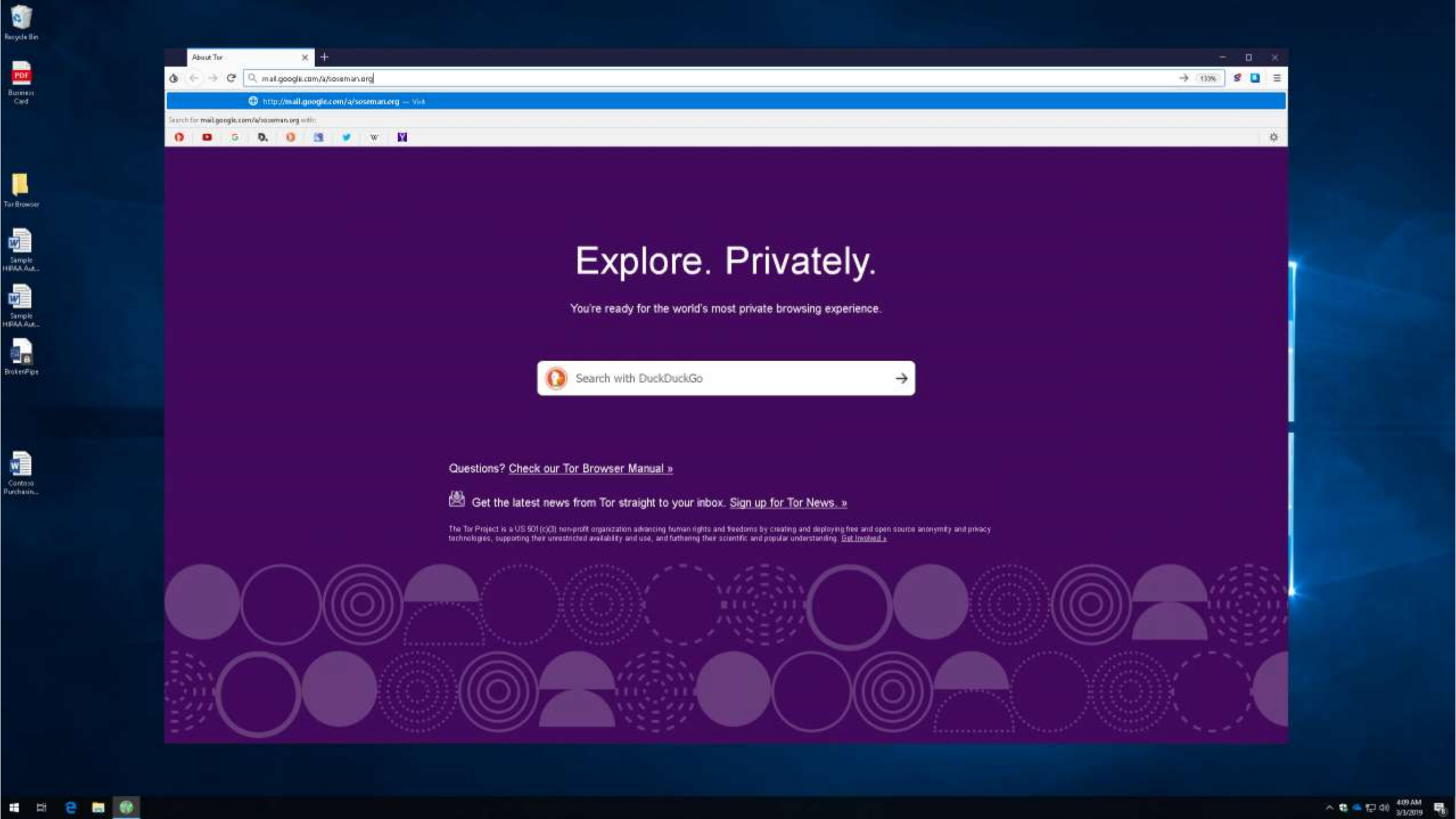
Detection source

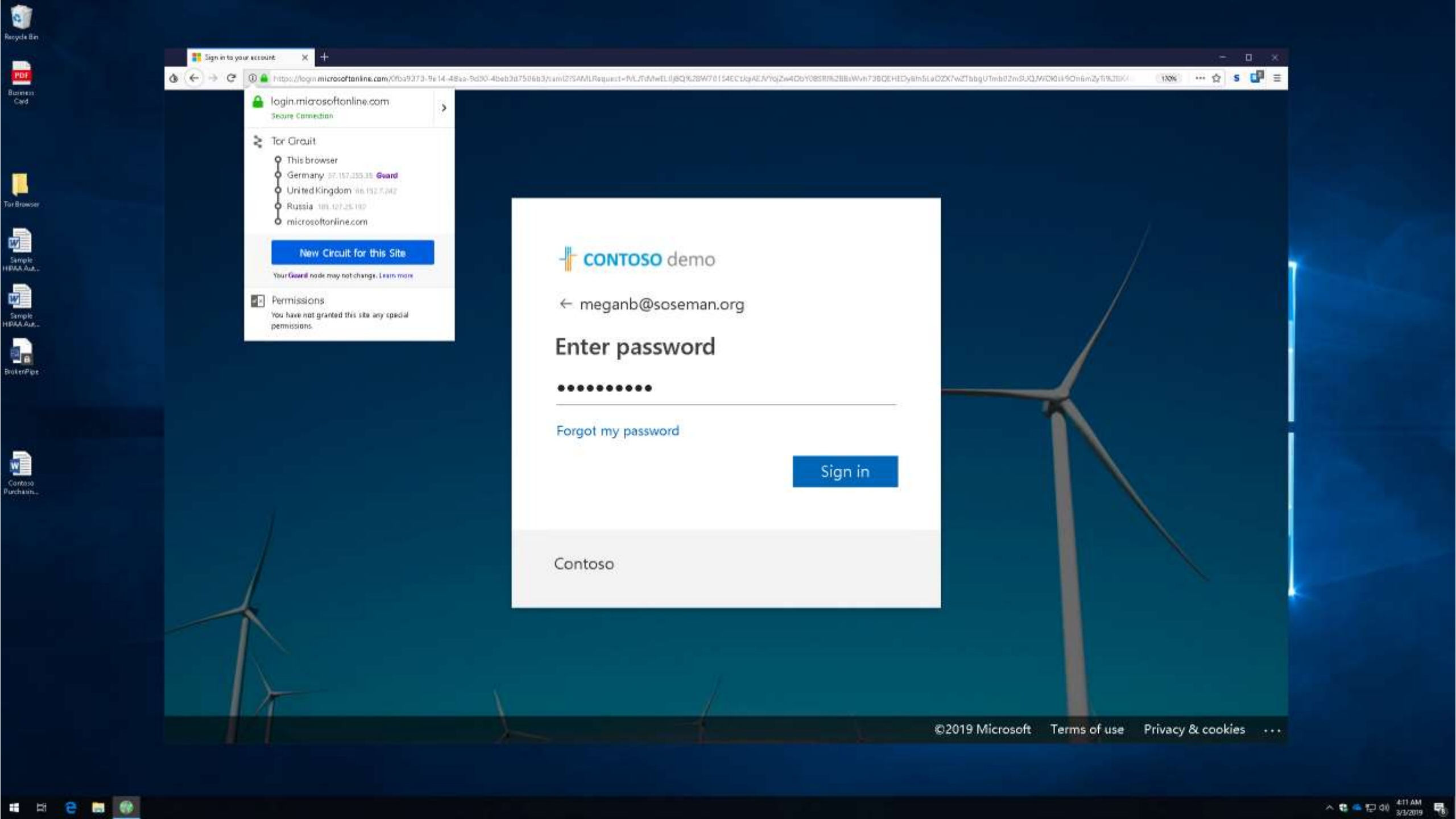
EDR

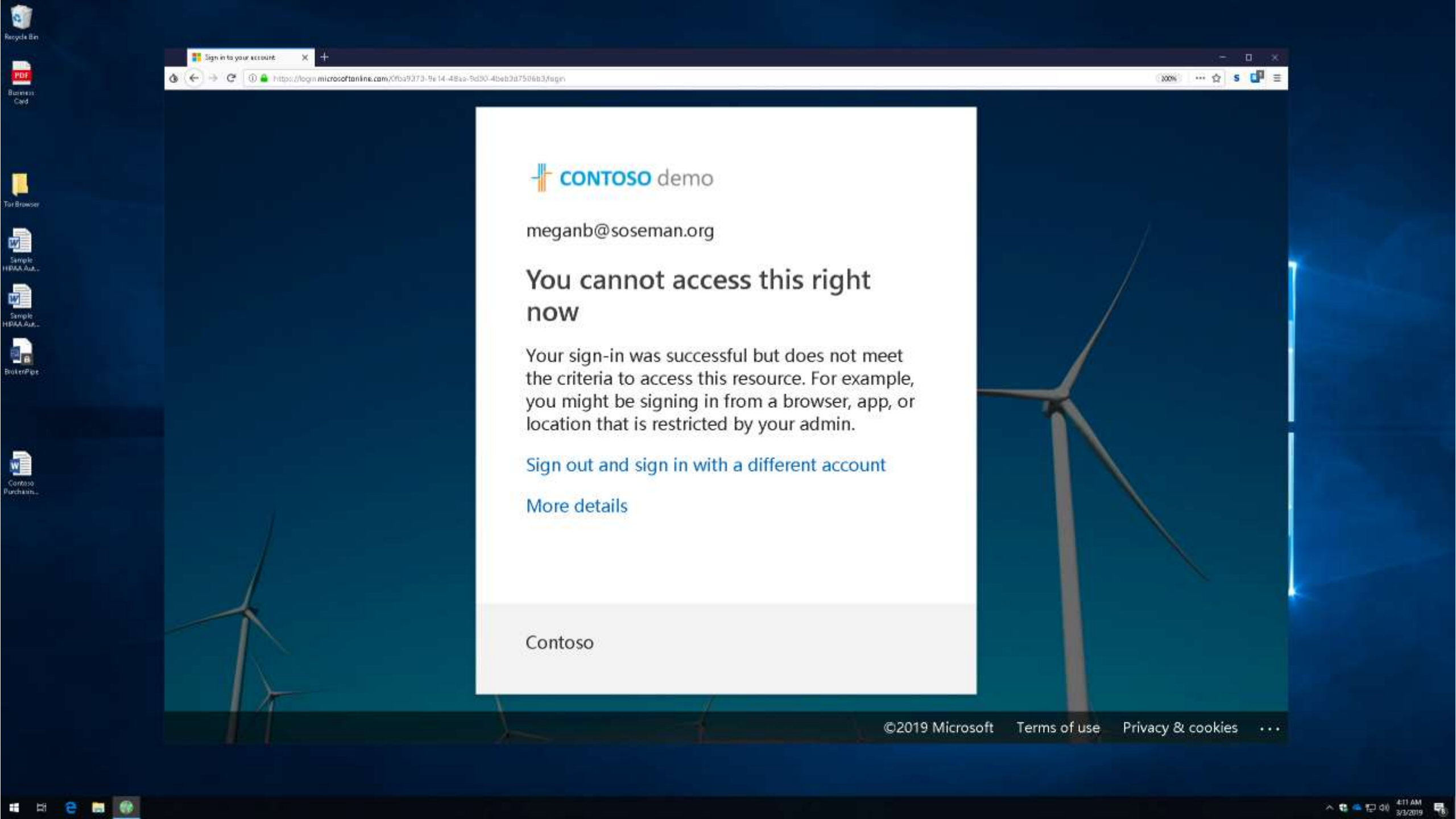
Investigation graph | Alerts (4) | Machines (1) | Key findings (4) | Entities (911) | Log (59)

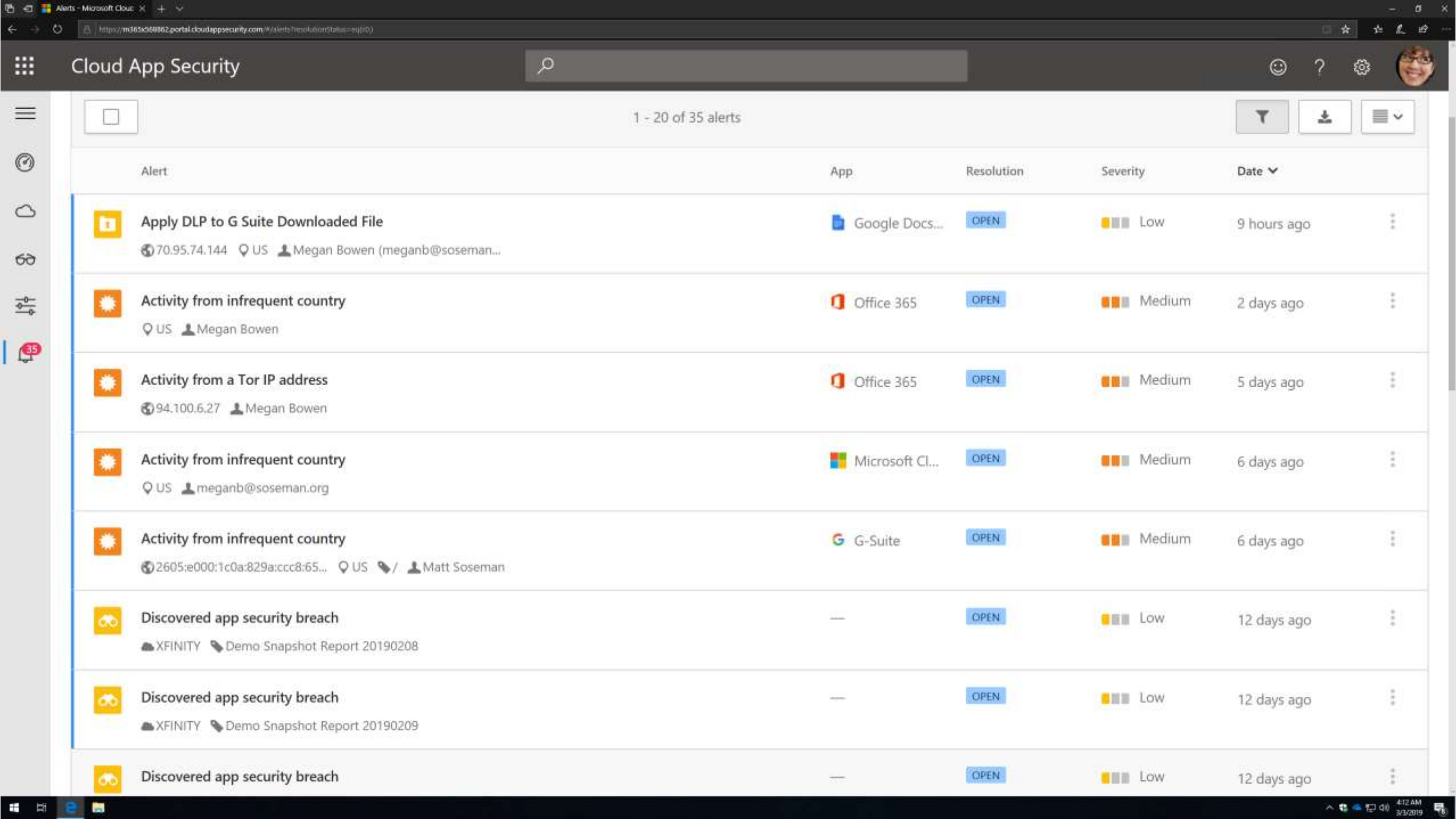
Demo

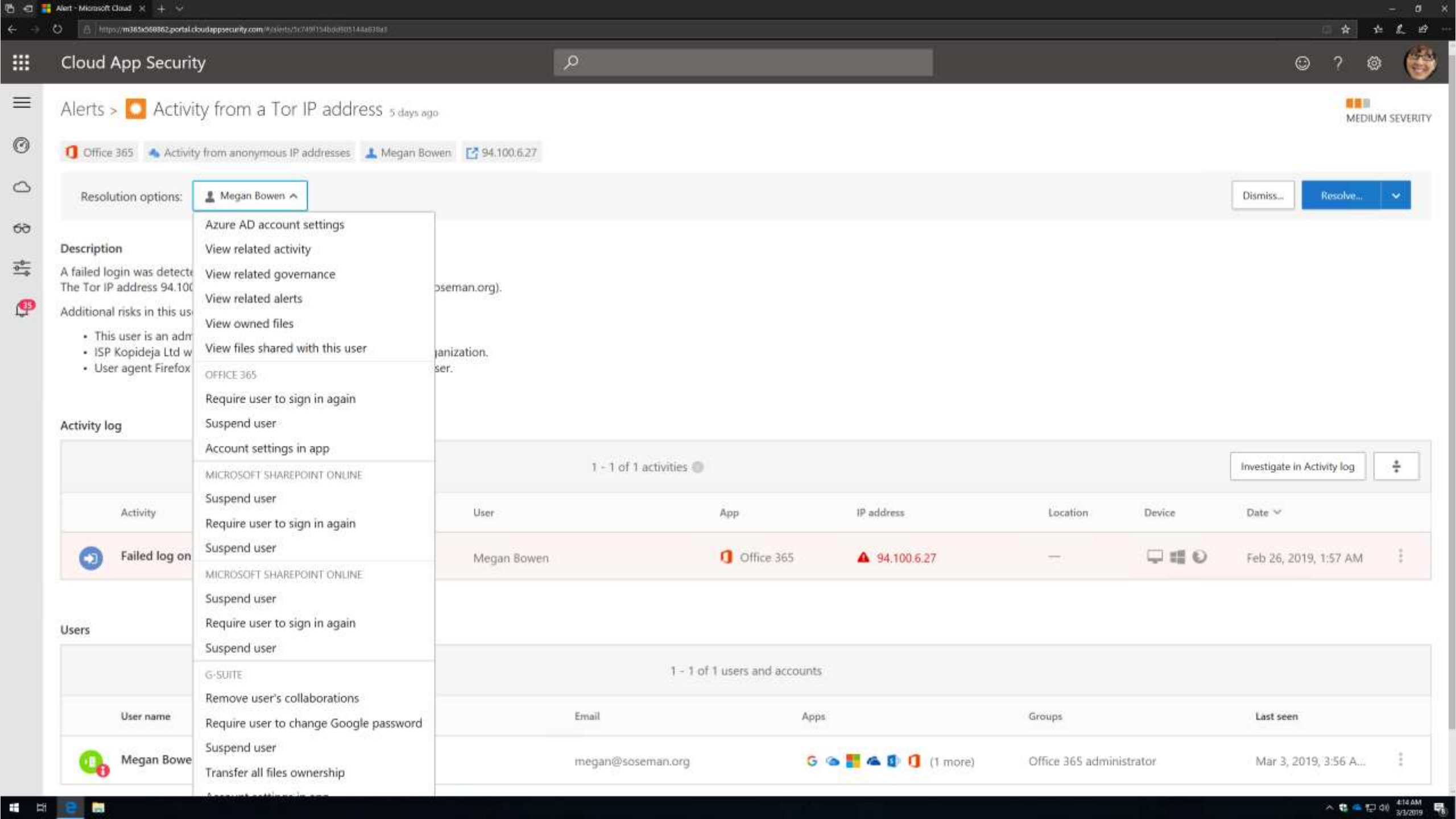
Denying access to an app using an unauthorized app or anonymous IP address


About Tor
mail.google.com/a/soseman.org
http://mail.google.com/a/soseman.org — Visit
Explore. Privately.
You're ready for the world's most private browsing experience.
Search with DuckDuckGo
Questions? Check our Tor Browser Manual »
Get the latest news from Tor straight to your inbox. Sign up for Tor News. »
The Tor Project is a US 501(c)(3) non-profit organization advancing human rights and freedoms by creating and deploying free and open source anonymity and privacy technologies, supporting their unrestricted availability and use, and furthering their scientific and popular understanding. Get Involved »
Recycle Bin
Business Card
Tor Browser
Sample HIPAA Aut...
Sample HIPAA Aut...
BrokerPipe
Contoso Purchasin...

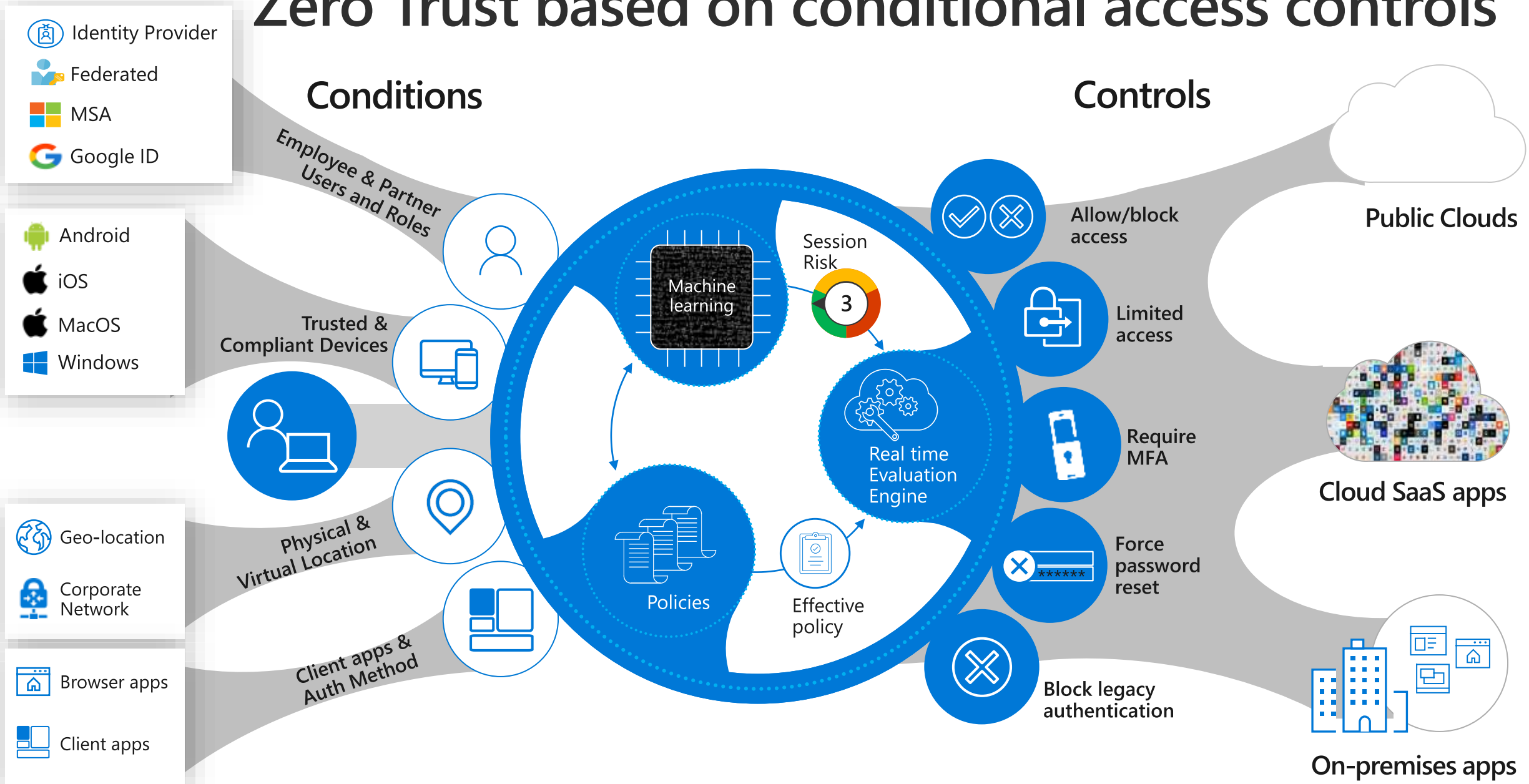

Sign in to your account
login.microsoftonline.com
Secure Connection
Tor Circuit
This browser
Germany
United Kingdom
Russia
microsoftonline.com
New Circuit for this Site
Your Guard node may not change. Learn more
Permissions
You have not granted this site any special permissions.
CONTOSO demo
meganb@soseman.org
Enter password
Forgot my password
Sign in
Contoso
©2019 Microsoft
Terms of use
Privacy & cookies


Sign in to your account
CONTOSO demo
meganb@soseman.org
You cannot access this right now
Your sign-in was successful but does not meet the criteria to access this resource. For example, you might be signing in from a browser, app, or location that is restricted by your admin.
Sign out and sign in with a different account
More details
Contoso
©2019 Microsoft
Terms of use
Privacy & cookies


Cloud App Security
1 - 20 of 35 alerts
Alert
App
Resolution
Severity
Date
Apply DLP to G Suite Downloaded File
70.95.74.144 US Megan Bowen (meganb@soseman...
Google Docs...
OPEN
Low
9 hours ago
Activity from infrequent country
US Megan Bowen
Office 365
OPEN
Medium
2 days ago
Activity from a Tor IP address
94.100.6.27 Megan Bowen
Office 365
OPEN
Medium
5 days ago
Activity from infrequent country
US meganb@soseman.org
Microsoft Cl...
OPEN
Medium
6 days ago
Activity from infrequent country
2605:e000:1c0a:829a:ccc8:65... US / Matt Soseman
G-Suite
OPEN
Medium
6 days ago
Discovered app security breach
XFINITY Demo Snapshot Report 20190208
OPEN
Low
12 days ago
Discovered app security breach
XFINITY Demo Snapshot Report 20190209
OPEN
Low
12 days ago
Discovered app security breach
OPEN
Low
12 days ago


Cloud App Security
Alerts > Activity from a Tor IP address 5 days ago
MEDIUM SEVERITY
Office 365
Activity from anonymous IP addresses
Megan Bowen
94.100.6.27
Resolution options:
Megan Bowen
Azure AD account settings
View related activity
View related governance
View related alerts
View owned files
View files shared with this user
OFFICE 365
Require user to sign in again
Suspend user
Account settings in app
MICROSOFT SHAREPOINT ONLINE
Suspend user
Require user to sign in again
Suspend user
MICROSOFT SHAREPOINT ONLINE
Suspend user
Require user to sign in again
Suspend user
G-SUITE
Remove user's collaborations
Require user to change Google password
Suspend user
Transfer all files ownership
Dismiss...
Resolve...
Description
Activity log
1 - 1 of 1 activities
Investigate in Activity log
Activity
User
App
IP address
Location
Device
Date
Failed log on
Megan Bowen
Office 365
94.100.6.27
Feb 26, 2019, 1:57 AM
Users
1 - 1 of 1 users and accounts
User name
Email
Apps
Groups
Last seen
Megan Bowe
megan@soseman.org
(1 more)
Office 365 administrator
Mar 3, 2019, 3:56 A...

Zero Trust based on conditional access controls



Key Takeaways

- Networks that fail to evolve from traditional defenses are vulnerable to breaches. We must assume breach.
- Zero Trust *can* enable new business outcomes that were not possible before.
- Technology has evolved to now make these scenarios possible, and you may already own it.
- Consider an "*if-this-then-that*" automated approach to Zero Trust.
- Identity is everything, make it the control plane.

Learning Resources

Learning Resources

Chief Information Security Officer (CISO) Workshop Training LINK

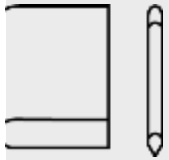
Microsoft security architecture training

PPT YouTube

Microsoft Exams Learning Resources

(LINK)

Microsoft Cloud Training Events LINK

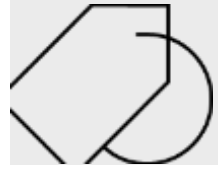


My Collections of scripts and ppts

aka.ms/abbas

Zero Trust Model

LINK



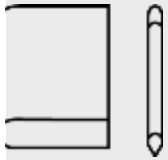
Best support for your enterprise need

Kubernetes 101 Docs
aka.ms/LearnAKS

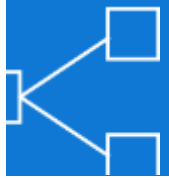
Best practices
aka.ms/aks/bestpractices

Hear from experts
aka.ms/k8s/lightboard

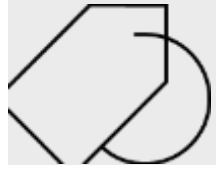
Case studies
aka.ms/aks/casestudy



Microservices architecture
aka.ms/aks/microservices



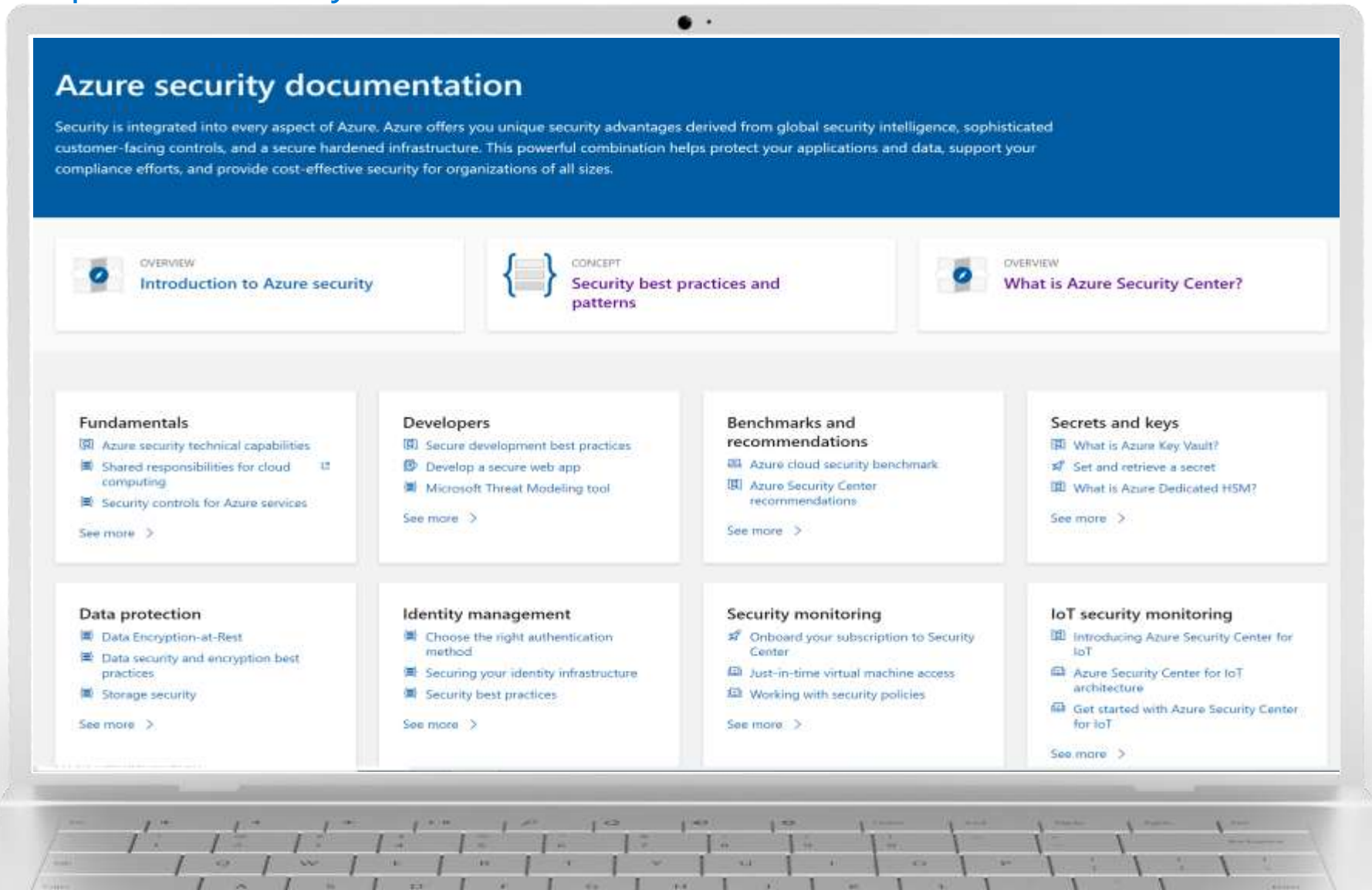
Try for free
aka.ms/aks/trial



Feedback on the roadmap? Tell us at https://aka.ms/aks/feedback

Azure Security Documentation

https://aka.ms/MyASIS



Azure Security Documentation Site has extensive information on security topics

Microsoft

Microsoft Certifications

Microsoft Certifications are the industry's premier credentials for professional technologies.

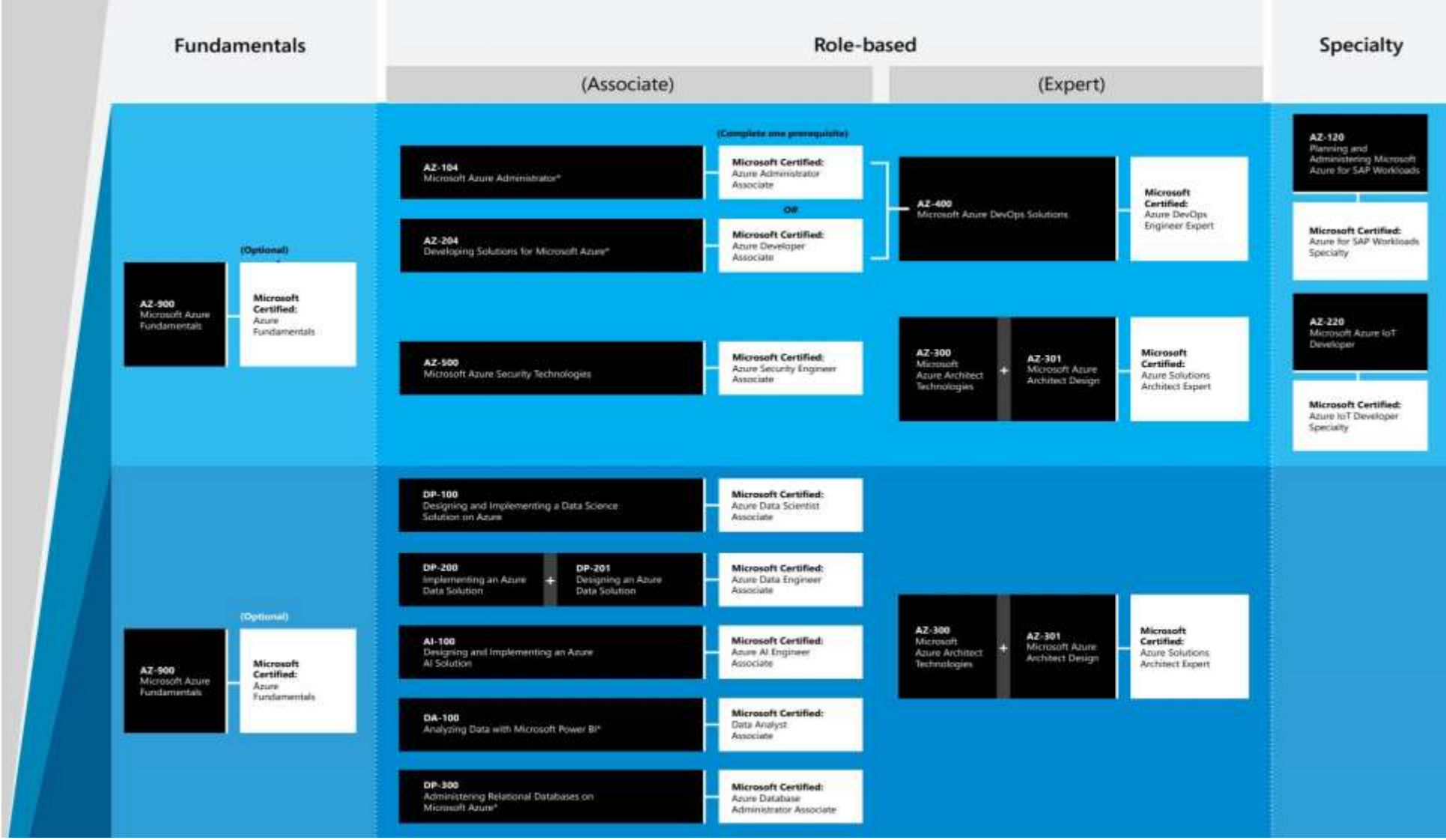
Certification types:

Fundamentals validates foundational understanding of Microsoft technologies and is optional for getting started.

Role-based validates technical skills required to perform industry job-roles on Microsoft platforms and technologies.

Specialty validates deep technical skills and ability managing industry solutions, including third-party solutions, on or with Microsoft platforms.

Learn more at Microsoft.com/Certifications



[Tips and Tricks for getting your Microsoft Certification]

[How to pick the right Azure Exam Certification Path]

[EXAM PREP: AZ-500 | Microsoft Azure Security Technologies]

Q&A

Abbas Kudrati
https://aka.ms/abbas
@askudrati