



# Adaptive Authentication and Device Trust for Enhanced Security

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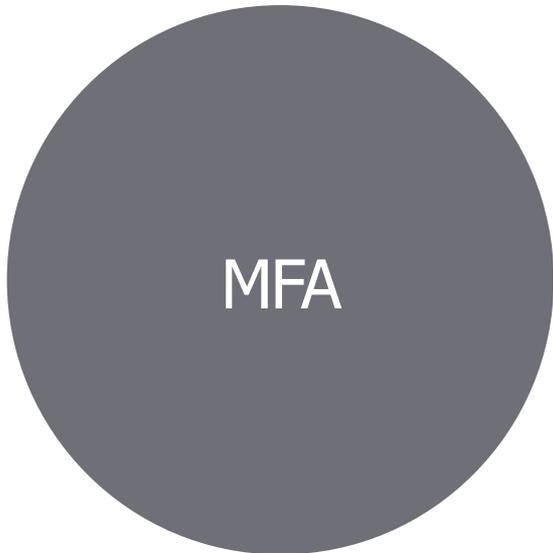
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# Why are we here?



Authentication



MFA



Adaptive  
MFA



**Users aren't static –  
your security shouldn't be either**

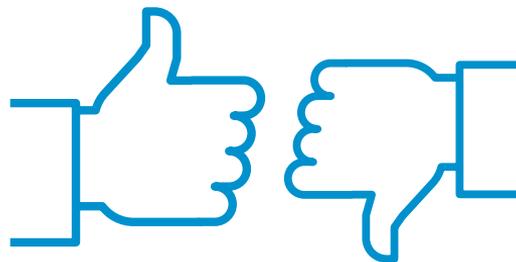


# Network zones



Location  
Blacklisting

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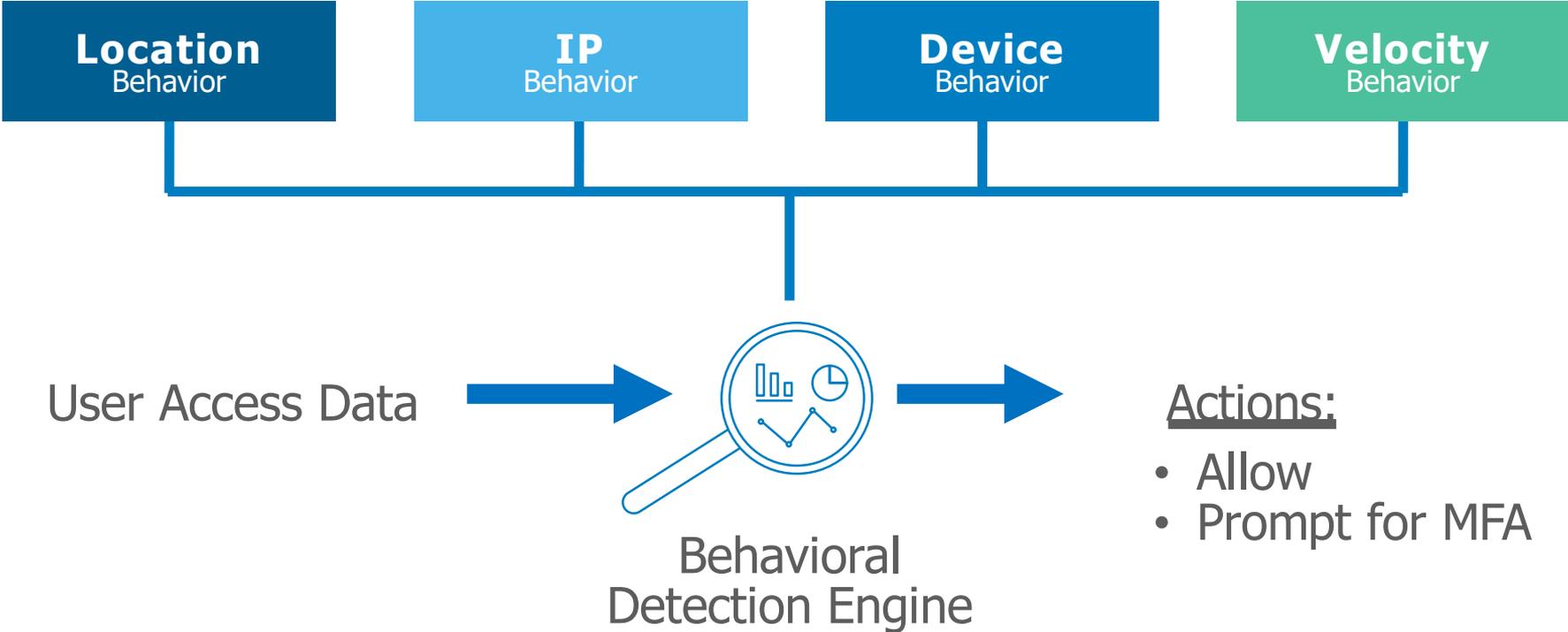
IP Reputation



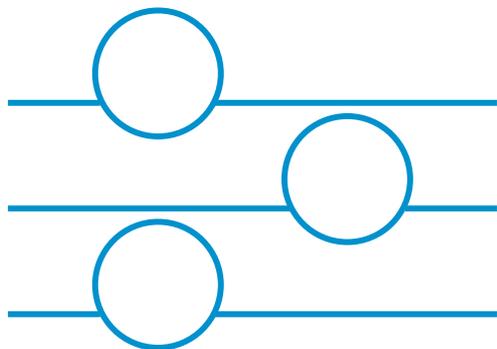
Tor Detection /  
Proxy Status



# Behavior detection



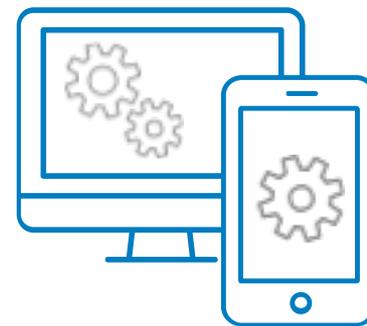
# Device context



Client Filters



New Device Behavior



Device Management

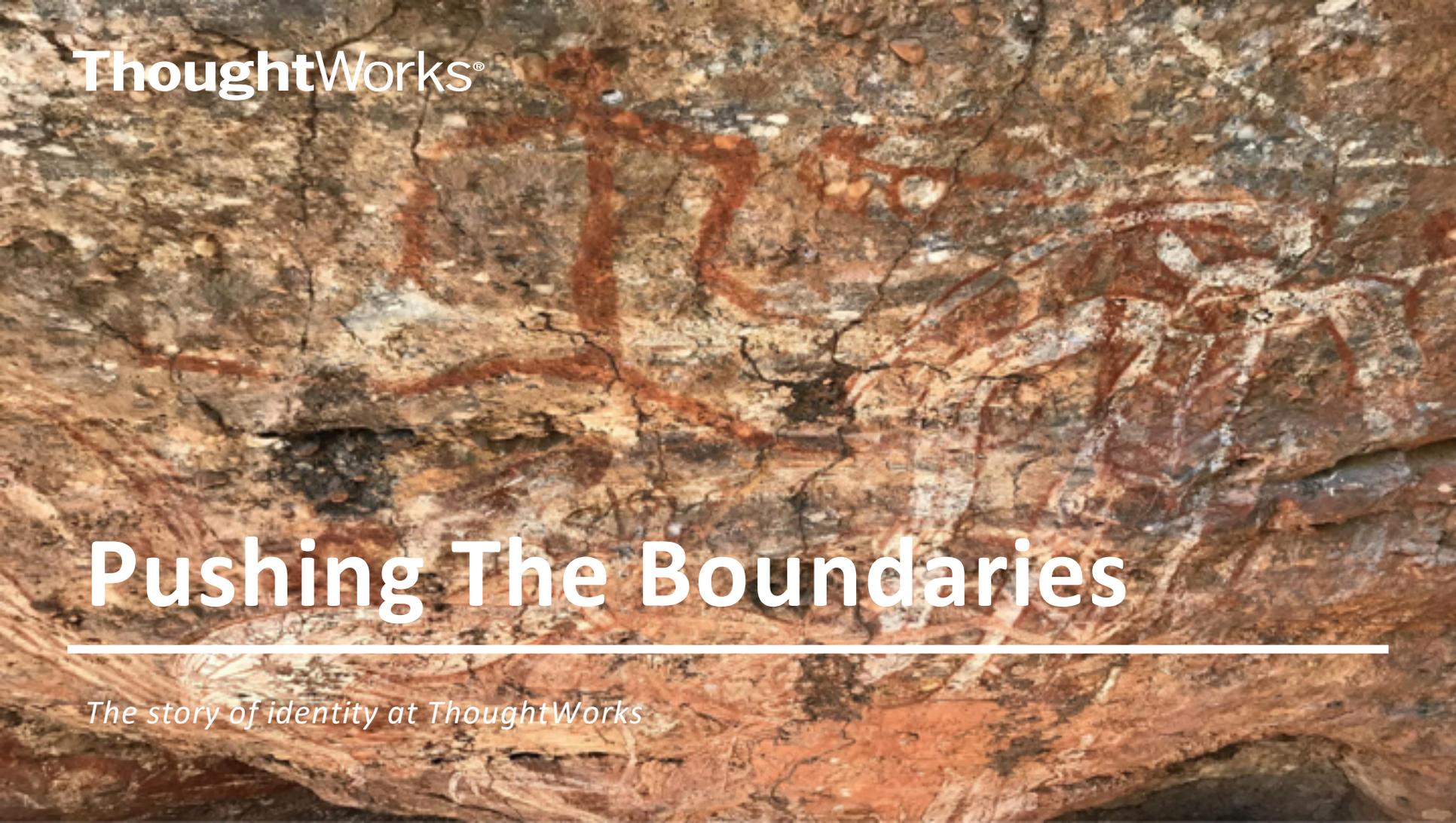




# Kelsey Van Haster

Product Owner Identity  
Thoughtworks





ThoughtWorks®

# Pushing The Boundaries

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*The story of identity at ThoughtWorks*

# Introduction



# ThoughtWorks



- ❑ ThoughtWorks is a global software consultancy
- ❑ 41 Offices in 14 countries
- ❑ Currently around 5500 staff
- ❑ Very flat organisational hierarchy
- ❑ Three pillar company
  - ❑ P1 Running a sustainable business
  - ❑ P2 Software Excellence
  - ❑ P3 Social Responsibility

# Context

- ❑ Formed 25 years ago, in Chicago, as a social experiment
- ❑ Privately owned by Roy Singham until late 2017
- ❑ 20% growth year on year
- ❑ Currently owned by APAX partners, who have asked us to double the size of our business over the next 3 years
- ❑ Without substantially increasing SG&A

# We are Identity

**NORTH AMERICA**  
Identity  
Support  
Sys Admin  
Engineering  
Tech Lead

**United Kingdom**  
Identity  
Support  
Engineering

**India**

Identity  
Support  
Sys Admin  
DevOps

**AUSTRALIA**  
Identity  
Support  
PO/  
Engineering



***We cannot become what we need to be by  
remaining what we are.***

*Max de Pree*

# The Journey So Far



# Life Before Okta

- ❑ Previously a very traditional internal IT organisation
- ❑ Active Directory fed by our HR system,
- ❑ Provisioning = lots of brittle sync scripts in lots of different languages
- ❑ SSO delivered via an on premise system - CAS
  - ❑ Hard to manage, hard to maintain.
  - ❑ **In 2013 there were 13 unplanned CAS outages, all of which prevented access to corporate data**
- ❑ More than 30% of all help desk tickets were related to access and authentication
- ❑ 3rd party MFA solution (RSA Tokens) in use, much despised and causing a lot of pain
- ❑ CIO Message - Just Fix it!

# Why Okta

- ❑ ThoughtWorks first began working with Okta in 2013
- ❑ Why we chose Okta over other cloud based Identity Providers
  - ❑ Cloud first architecture
  - ❑ Built in MFA (with options)
  - ❑ Lightweight AD integration (important at that time)
  - ❑ Straightforward integration (SSO) with cloud providers
- ❑ Cultural fit
  - ❑ Transparency
  - ❑ Accessibility
  - ❑ Willingness to work alongside us

# Our Strategy - Cloud First

- ❑ Identity was born in late 2015 – our mission was making Okta the source of truth for ThoughtWorker Identities
  - ❑ Shutting down Active Directory
  - ❑ Continue replacing all our on premise applications, using Okta as a broker between our SaaS providers
  - ❑ Shutting down data centres and on premise data stores
  - ❑ Decoupling and elevating the Identity domain
- ❑ BeyondCorp as an approach to enterprise security
  - ❑ Introducing device management to provide secure trusted endpoints
- ❑ Key theme for the ThoughtWorks 2018 Technical Radar
  - ❑ Recognition of our work across the wider organisation
  - ❑ Acknowledges our reality

# Identity in 2018

## ❑ Identity As A Service - centered around Okta

- ❑ Developing an Identity API catalogue - delivered via the TechOps Digital platform
- ❑ Extending our Identity lifecycle to other teams
- ❑ Integrating with Workday - but retaining Okta as our Identity Provider
  - ❑ Adding in a pre-hire state to allow people to establish their Okta account before day 1
  - ❑ Taking advantage of Group Rules and Admin Managed Tabs.
- ❑ Integrating ServiceNow for asset and inventory management

## ❑ Future Goals

- ❑ Extending our Identity lifecycle to external parties
  - ❑ Customers, Partners, Alumni and Guests
- ❑ Internal IT increasingly recognised as adding business value
- ❑ Recognition of expertise (consulting externally, as well as internally)

**Bridging the gap between security and usability,  
enabling continuity of user access to resources**



# Adaptive Authentication: Customize Response Based On Context

Context

Response



# Adaptive Authentication: Context



Group/Role	User agent	Lat/Lon	In-Network IP	Sensitive data	Bad IPs
Login velocity	Device fingerprint	Country	Out-Network IP	User group	Malicious user behavior
Work location	Devices per user	State	Proxy		
Working hours	Managed	City	Anonymizer		
Typing speed	Known device	Prohibited country	Known bad IPs		
Concurrent login	Secure device				
Auth. method					



# Top Initiatives for 2018



Okta  
ThreatInsight



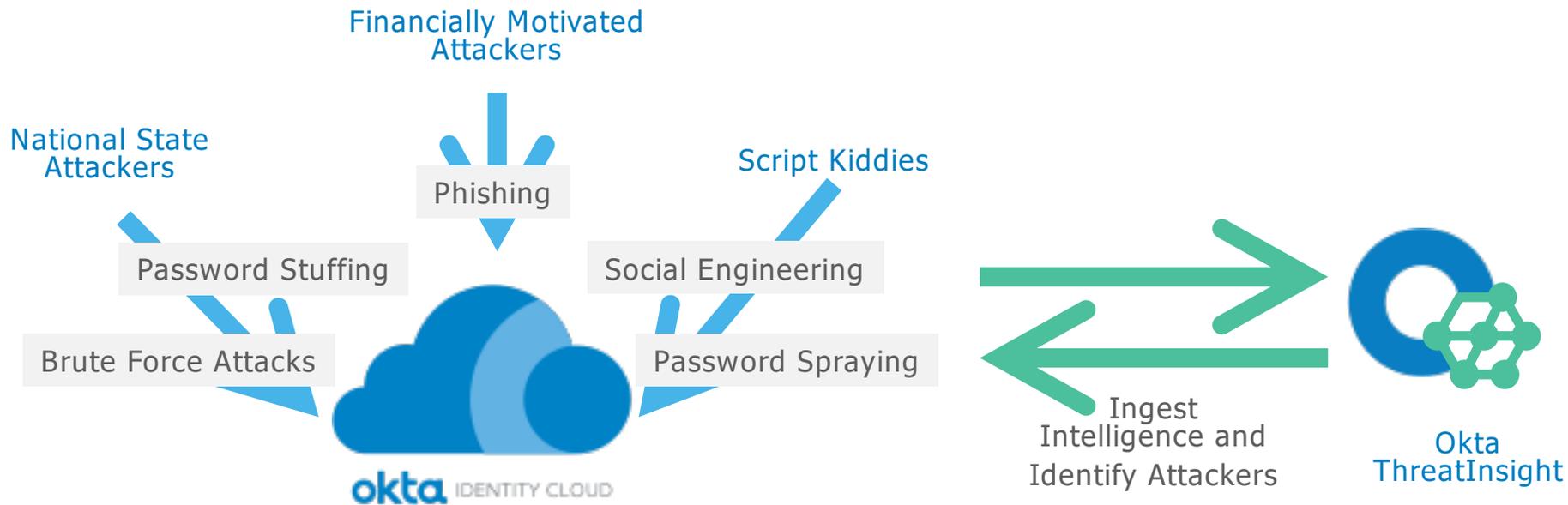
Factor  
sequencing



Risk scoring



# Okta ThreatInsight: Aggregated Data Powering Security



**Okta ThreatInsight: Conditional Access Control**

Threat insight is scheduled to be available in the second half of the year.

# Response: Use Authentication Factors of Choice

**Add Rule**

Rule Name  
Trusted Company Networks

Exclude Users  
Exclude users

**PRE - AUTHENTICATION**

If user's IP is  Manage configurations for Network

All zones

Select zone

Then access is

**SELECT YOUR CRITERIA**

**AUTHENTICATION**

Password  Security strength: Password + Okta Verify Strong

Required additional authentication

Okta Verify  Security strength: Password + Okta Verify Strong

OR

Google Authenticator  Security strength: Password + Google Auth Strong

OR

SMS Authentication  Security strength: Password + SMS Moderate

Add

Okta Verify  Security strength: Okta Verify Only Strong

Required additional authentication

None  Security strength: Okta Verify Only Strong

Add

Add authentication chain

**SESSION LIFETIME**

Session lifetime  Per device  Every time



- Select your method of authentication(s)



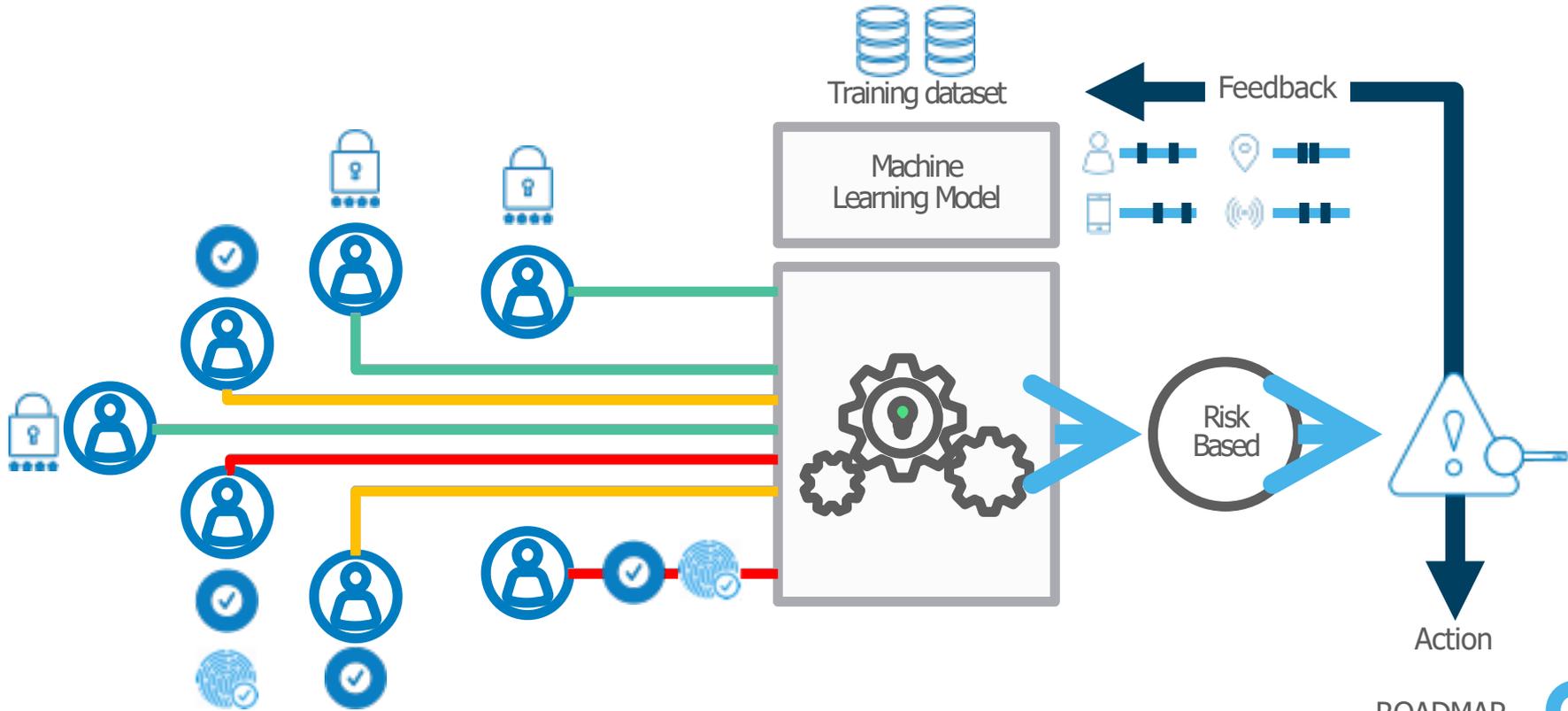
- Choose factors other than password



- Flexibility to prompt for stronger authentication factors for high risk use cases



# Risk Scoring: Dynamic and Continuous Evaluation



# Risk-Based Model can be Applied Across Products

- Okta Sign-On
- App Sign-On
- Factor Enrollment
- Continuous Authentication



# In summary

Today

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Network  
Zones

Behavior  
Detection

Device  
Context

Coming Soon

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Factor  
sequencing

Risk scoring

Okta  
ThreatInsight





Thank You

