



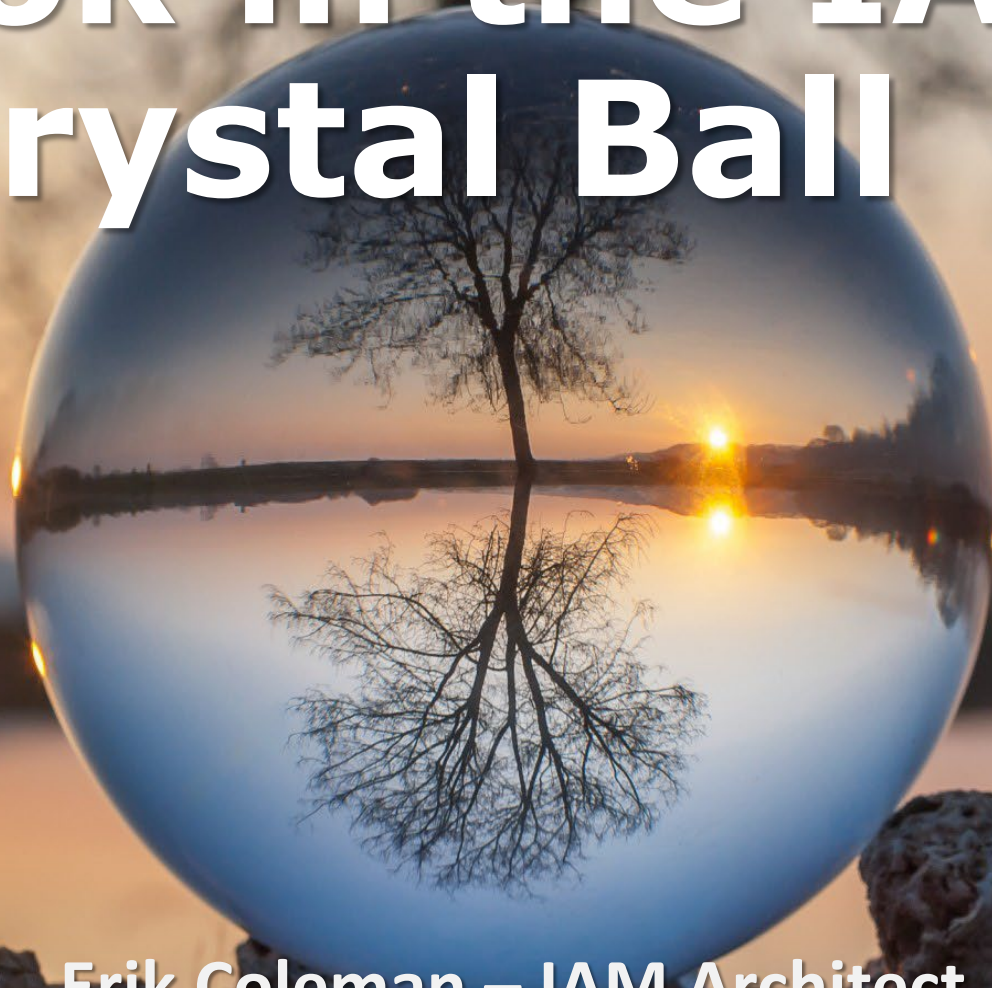
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# A look in the IAM Crystal Ball



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# The 3 Tracks of IAM

## Governance

### Establish

Identify and engage the right stakeholders and subject matter experts.

### Define

Create a shared understanding of our current state and create strategic goals for the IAM program.

### Measure

Identify the key performance indicators that will be measured to track progress within each group.

### Optimize

Adjust as necessary through a continuous re-evaluation of strategic goals, KPI metrics, and feedback.

## Lifecycle

### Alignment

Leveraging current state analysis and strategic direction, create a shared roadmap for how to align an approach to IGA.

### Identity

Create a consolidated and consistent identity repository that will support lifecycle management and core integrations.

### Core Integrations

Create the necessary institutional roles and provisioning integrations for core solutions to support foundational activities.

### Deliver at Scale

Create policies, processes and procedures to be able to deliver operationalized IGA at scale. Prioritize and engage organizational units.

## Single Sign-On

### Alignment

Leveraging current state analysis and strategic direction, create a shared roadmap for how to align an approach to SSO.

### Reduce

Reduce complexity and customizations not aligned with the shared roadmap ex. local authN or MFA implementation.

### Person-centric

Introduce person-centric capabilities to detect fraud; evaluate and react to risk.

### Password-less

Improve the user experience and security posture by leveraging password-less capabilities including multi-factor for everyone.

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# Governance



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Where can I change my personal  
information?

Where has my personal  
information gone?

How can I manage my contact  
preferences?





How often do you hear  
*“I don’t have access to that.”*

How much information will you  
*lose* when an employee finds a  
new opportunity?

How does your organization *work*?





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We need to understand...

*Who* has access to *what*?

How to model access?

How to make this *simple*?



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We need to  
change from...

Architectural blueprints are shown as a background element, partially unrolled and overlapping. They feature various technical drawings, including floor plans and cross-sections, with numerous dimension lines and numerical values. The blueprints are rendered in a light blue/white color scheme, contrasting with the dark blue background on the right.

“I need access to  
CIM LMS in Splunk”



We need to change to...

“I am a data analyst  
in Engineering”





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# IAM Steering Committee

- Participation from UA, UIC, UIH, UIS, and UIUC



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# Identity Lifecycle

(Really Identity Governance)



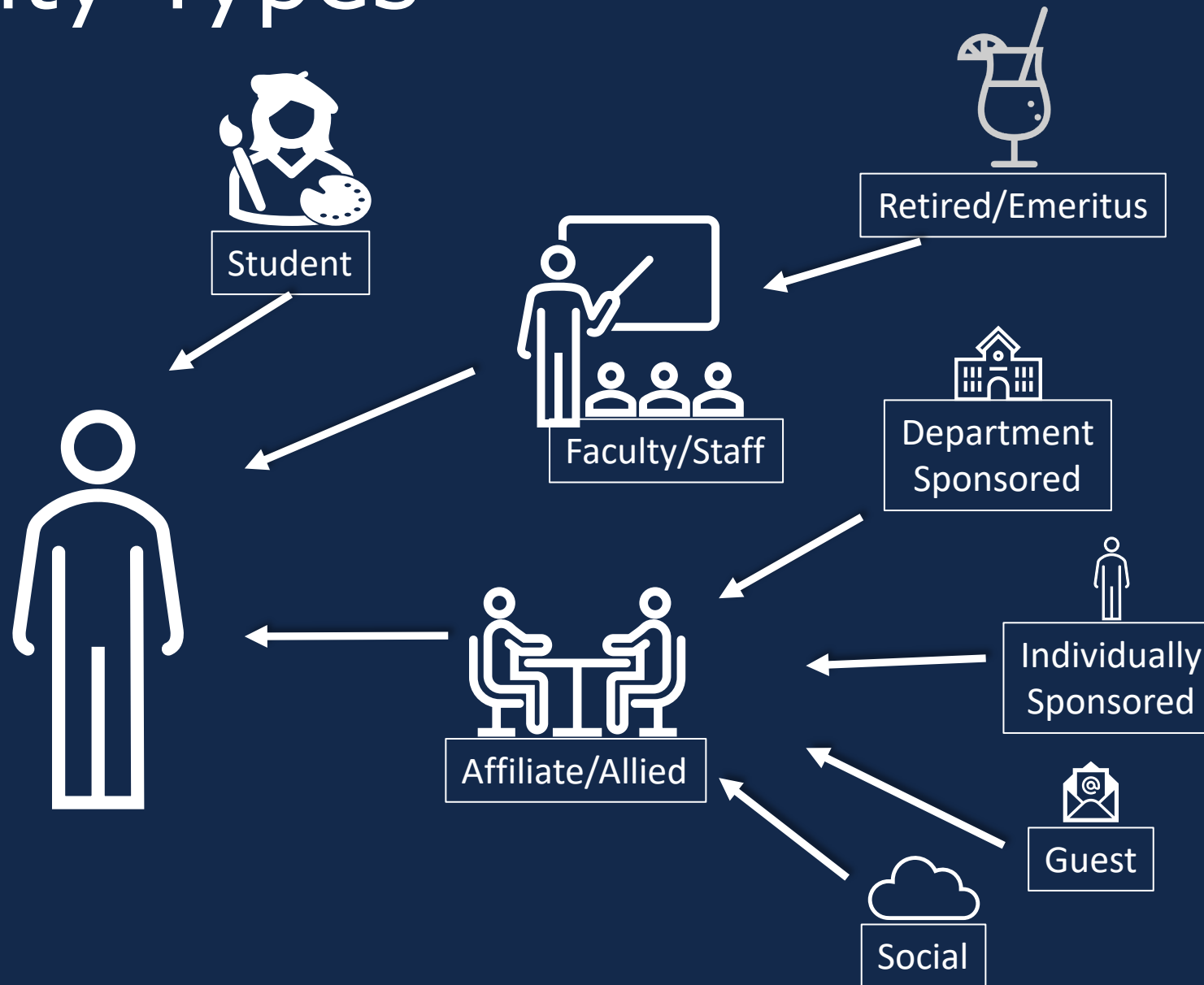
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# Identity Types



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# Defining Constituencies

- What is a "student"?
- What is "staff"?
- Affiliates can be "like a student" or "like staff"
- Deliverable: IAM Defined Constituencies



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# Additional Access Requirements

- Grant/revoke application access policies based on compliance with certain recertifications
  - HIPAA
  - FERPA
  - Ethics Training
  - Appropriate Use Policy
  - Terms and Conditions



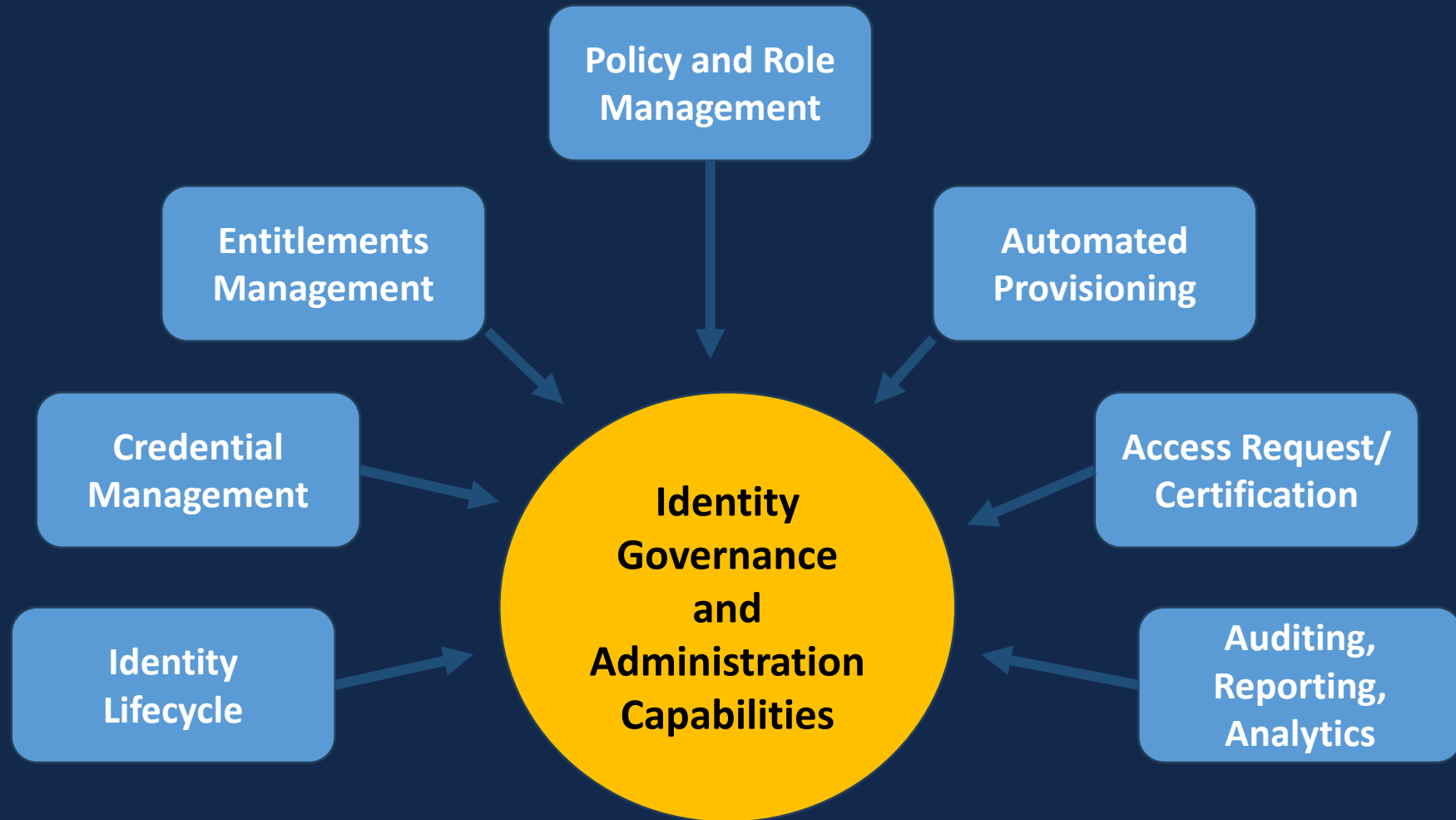
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# What is IGA?



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# Single Sign-On



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# Linked SSOs

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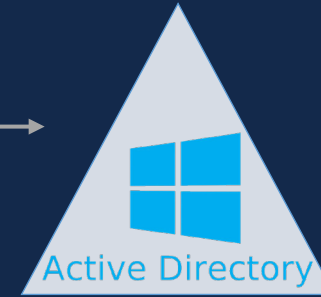
MFA



Entra ID

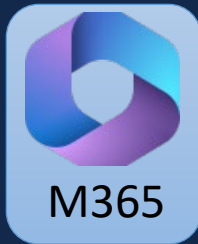
Azure AD Connect Sync

SAML Proxy



Active Directory

Entra Registered Applications



M365



Azure

Attribute Resolution

Credential Validation/  
Attribute Resolution



Shibboleth



ECP



MFA

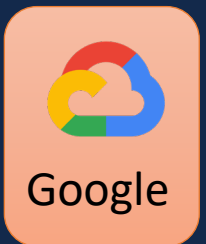
InCommon-Federated Applications



Canvas



aws



Google



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# Passwords

## TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD IN 2023

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	Instantly	Instantly
7	Instantly	Instantly	1 sec	2 secs	4 secs
8	Instantly	Instantly	28 secs	2 mins	5 mins
9	Instantly	3 secs	24 mins	2 hours	6 hours
10	Instantly	1 min	21 hours	5 days	2 weeks
11	Instantly	32 mins	1 month	10 months	3 years
12	1 sec	14 hours	6 years	53 years	226 years
13	5 secs	2 weeks	332 years	3k years	15k years
14	52 secs	1 year	17k years	202k years	1m years
15	9 mins	27 years	898k years	12m years	77m years
16	1 hour	713 years	46m years	779m years	5bn years
17	14 hours	18k years	2bn years	48bn years	380bn years
18	6 days	481k years	126bn years	2tn years	26tn years



› Learn how we made this table at [hivesystems.io/password](https://hivesystems.io/password)

## USING CHATGPT HARDWARE TO BRUTE FORCE YOUR PASSWORD IN 2023

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	Instantly	Instantly
7	Instantly	Instantly	Instantly	Instantly	Instantly
8	Instantly	Instantly	Instantly	Instantly	1 secs
9	Instantly	Instantly	4 secs	21 secs	1 mins
10	Instantly	Instantly	4 mins	22 mins	1 hours
11	Instantly	6 secs	3 hours	22 hours	4 days
12	Instantly	2 mins	7 days	2 months	8 months
13	Instantly	1 hours	12 months	10 years	47 years
14	Instantly	1 days	52 years	608 years	3k years
15	2 secs	4 weeks	2k years	37k years	232k years
16	15 secs	2 years	140k years	2m years	16m years
17	3 mins	56 years	7m years	144m years	1bn years
18	26 mins	1k years	378m years	8bn years	79bn years



› Learn how we made this table at [hivesystems.io/password](https://hivesystems.io/password)





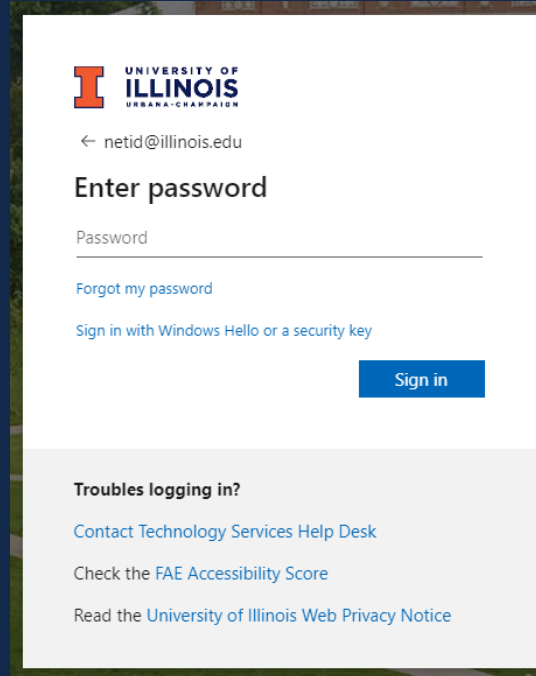
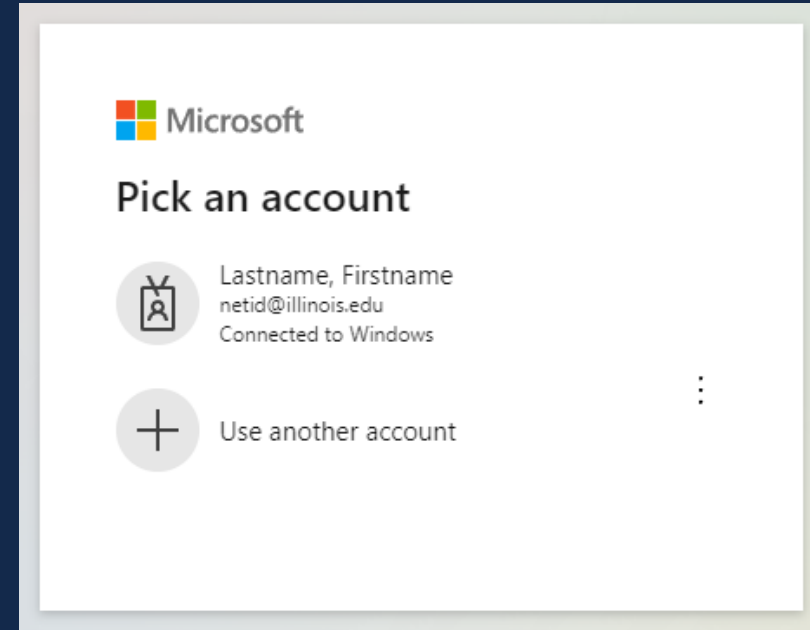
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# Microsoft Entra SSO via PRT



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A screenshot of the University of Illinois login page. At the top left is the University of Illinois logo. Below it is the email address "netid@illinois.edu" with a back arrow. The main heading is "Enter password". Below this is a password input field. There are links for "Forgot my password" and "Sign in with Windows Hello or a security key". A blue "Sign in" button is at the bottom right. At the bottom, there is a section "Troubles logging in?" with links to "Contact Technology Services Help Desk", "Check the FAE Accessibility Score", and "Read the University of Illinois Web Privacy Notice".A screenshot of the Microsoft account selection page. At the top is the Microsoft logo. Below it is the heading "Pick an account". There are two account options: one with a profile icon and the text "Lastname, Firstname netid@illinois.edu Connected to Windows", and another with a plus icon and the text "Use another account". A vertical ellipsis is to the right of the second option.

OS\Browser	Microsoft Edge	Google Chrome	Mozilla Firefox	Safari
Windows 10/11	Yes	Yes	Yes	N/A
Mac OS X	N/A	Yes	Yes	Yes



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# Conditional Access

- Beyond just AuthZ
- Combination of
  - Users' roles
  - Data classification
  - Device posture
  - Behavior
- Need additional metrics to make better decisions



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# Multi-factor Authentication

- Evaluating New Technologies
- Duo is now Cisco
- Is Azure MFA viable?
- Other factors
  - FIDO2-compliant keys
  - HID Crescendo iCard
  - Passkeys



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# Takeaways

## Governance

- IAM Steering Committee
- People-Centric Processes



## Lifecycle

- IGA Tool
- Defined Constituencies

## Single Sign-On

- Device Posture
- Passwordless
- Improved MFA



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# Reach out to us

- IAMU Team [techservices-iamu@illinois.edu](mailto:techservices-iamu@illinois.edu)
- IAM Steering Participation: [digitalrisk@uillinois.edu](mailto:digitalrisk@uillinois.edu)



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