

Cloud Enablement 3-Legged Race Style

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Information Assurance explained



Photo by Tima Miroshnichenko:
<https://www.pexels.com/photo/three-people-hacking-a-computer-system-5380643/>

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1. UCHICAGO TOOK AN UNUSUAL PATH,
YOU CAN TOO!



Cloud enablement explained

Connecting campus to IaaS offerings

We've used consumer, broker, or provider to characterize our IaaS approach. This was originally derived from Gartner research.

Consumer

- The IT organization is focused on its own consumption of cloud services.
- The overhead to manage services is **low**, and institutional risk is **high**.



Google Cloud

Broker

- The IT organization is focused on developing consulting expertise and acting as a **broker between cloud providers and potential users.**
- The overhead to manage services is **medium**, and institutional risk is **medium.**

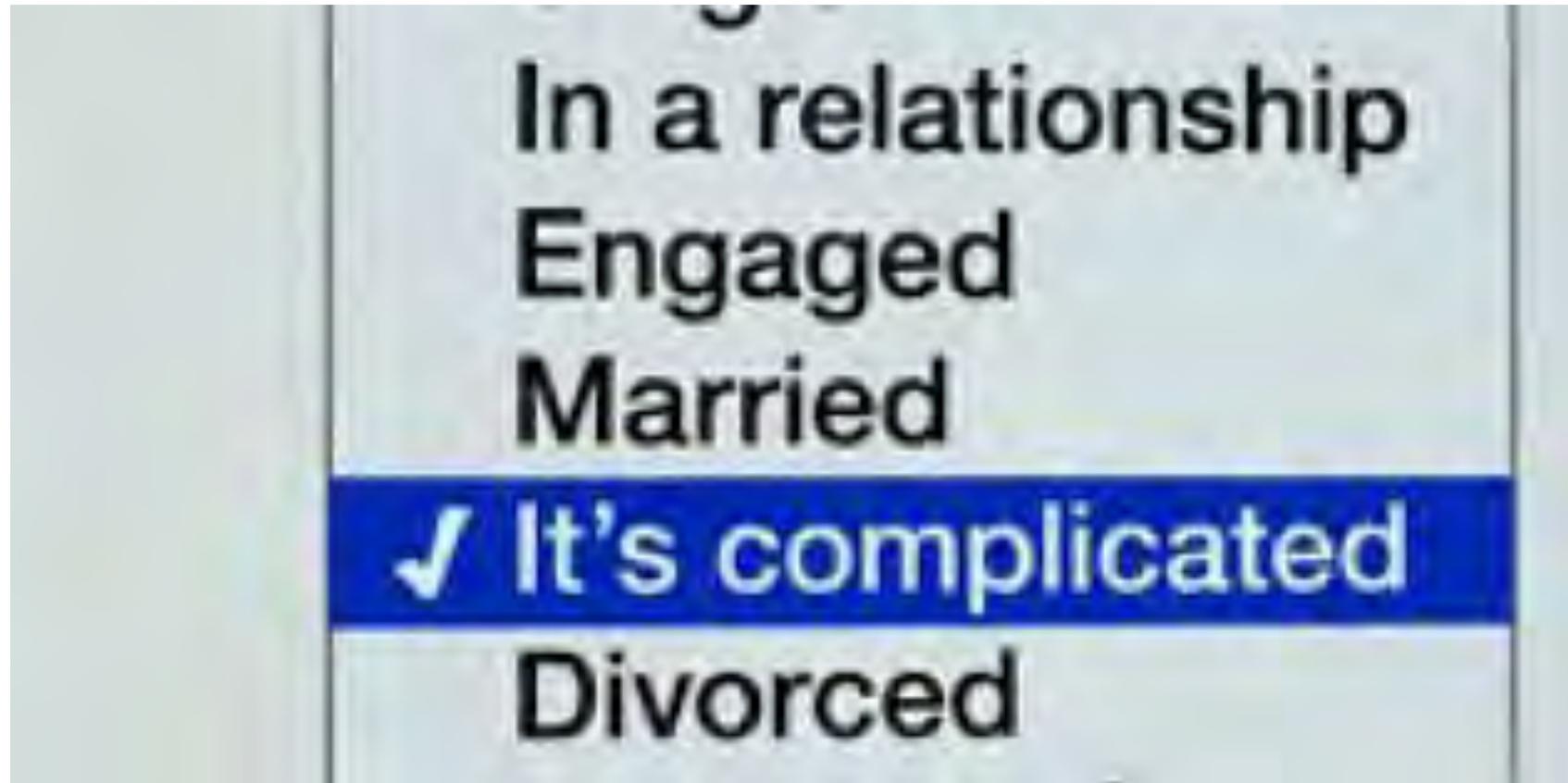


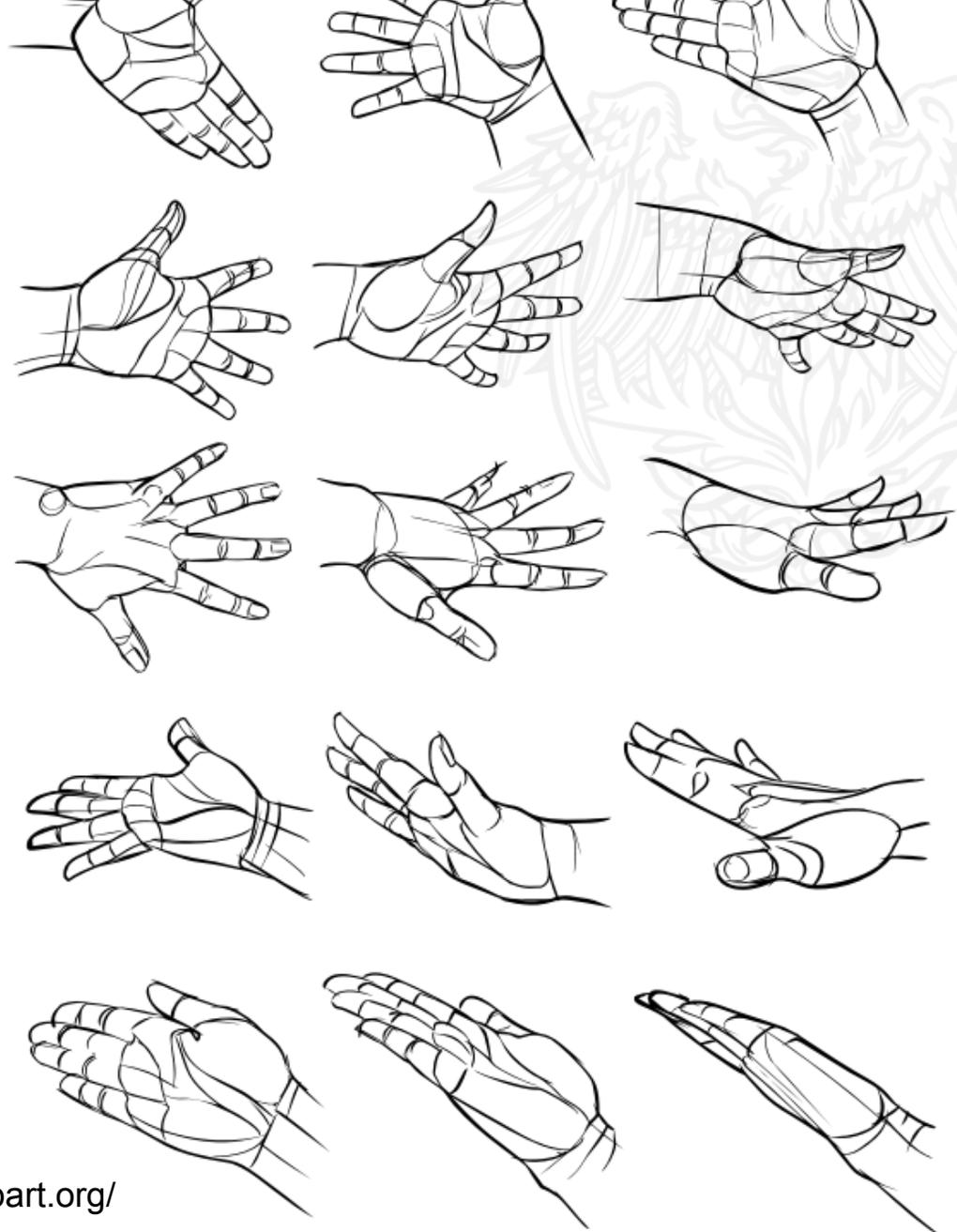
Provider

- The IT organization manages all cloud consumption for the institution.
- Decentralized units are prevented from signing contracts and are required to follow the lead of central IT.
- The overhead to manage services is **high**, and institutional risk is **low**.



We'd prefer to be a broker on every front.





Show of hands:
Isn't it weird that someone in
security is at the helm of
cloud enablement? What
happened?

<https://openclipart.org/>



3-legged race explained

3-legged race explained

- Not about 3 legs



<https://www.wannapik.com/vectors/57420>

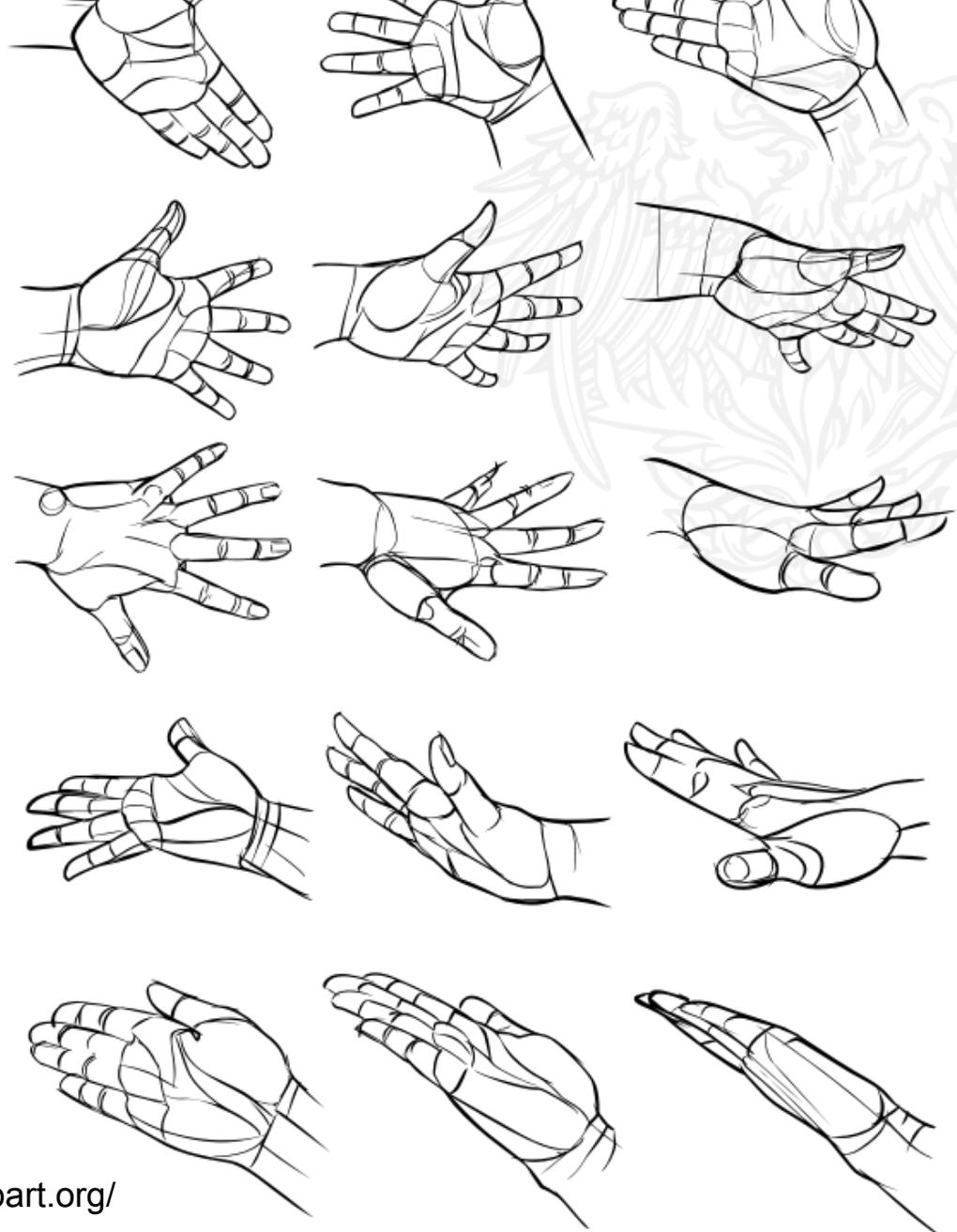
3-legged race explained

- You may be paired with someone you don't normally work with.
- It's not going to require all of you all of the time.
- It feels awkward because it is



2. ROLES AND RESPONSIBILITIES WILL BE MESSY FOR SOME TIME.

If they aren't, you may be doing something wrong.



Show of hands:
How many folks here have
a cloud enablement team?

<https://openclipart.org/>

UChicago Cloud Enablement Team History

2016 Director, Information Assurance (but in a prior, also not cloud-themed role)

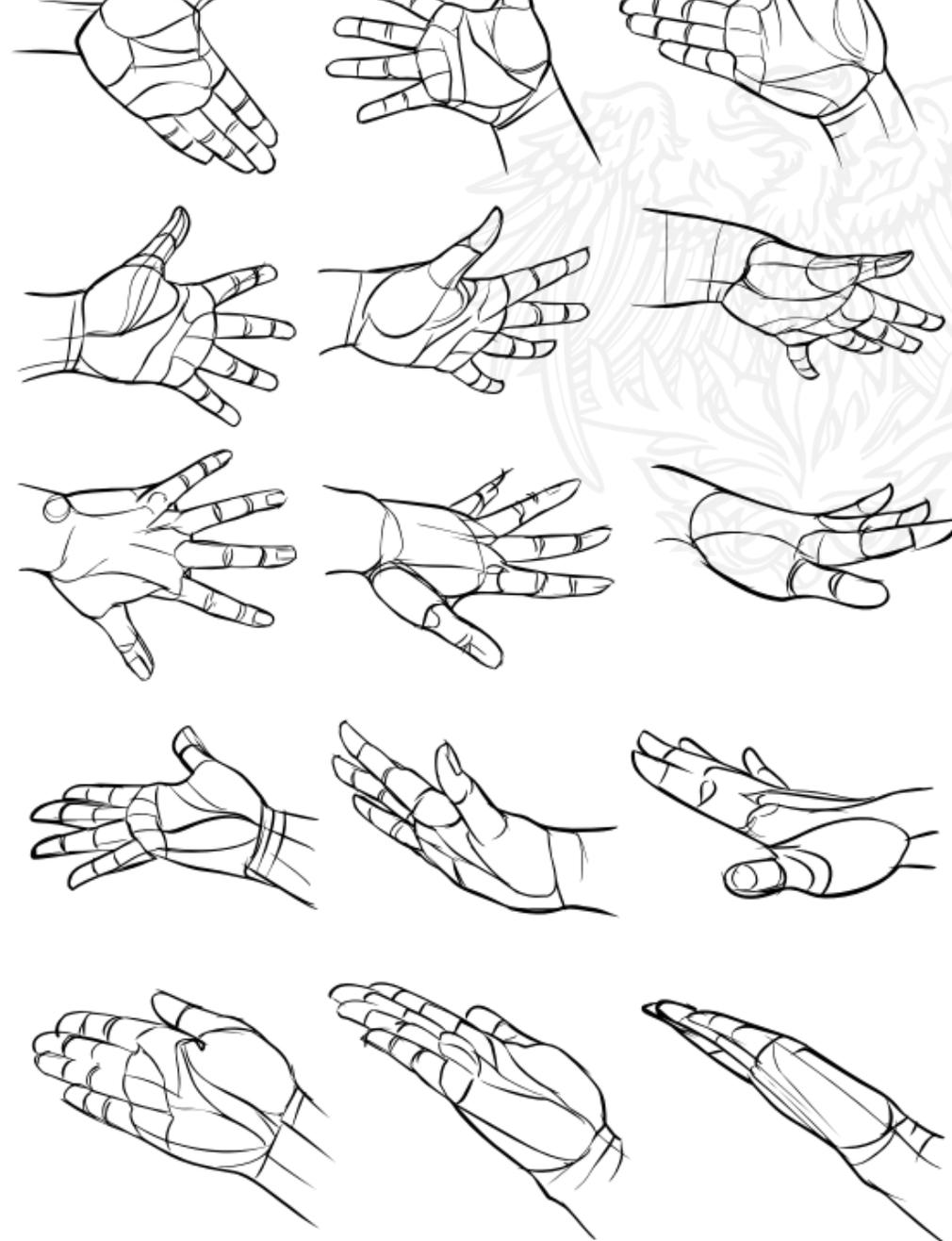
2018 Security engineer

2020 Manager, Secure Data Enclave (on prem)

2020 Director of Infrastructure, because Windows, because Azure

2020 Windows sys admin, because Windows, because Azure

Show of hands:
Do you have someone
with cloud in their title?



Cloud Enablement Team

NOPE Director, Information Assurance

2023 Security engineer -> **Cloud Security Architect**

NOPE Manager, Secure Data Enclave

NOPE Director of Infrastructure

2021 Windows sys admin -> **Cloud Engineer**



Roles of the enablement team

Responsibilities and Roles

		Cloud Enablement team	Account requestor's Unit IT	Account requestor	Technical Account Manager
1	Paying for bills			✓	
2	Providing deep technical expertise	✓		✓	✓
3	Doing cloud economically	✓		✓	✓
4	Security oversight	✓	✓	✓	
5	Creating accounts	✓			
6	Triaging requests	✓			
7	PR/Communications				
8	Paying for bills (part 2) Sorting out billing misunderstandings	✓			



https://commons.wikimedia.org/wiki/File:Animals_Facing_Left_Unicorn.jpg



3. MOVING FROM ENTERPRISE TO RESEARCH



Bill Wrobleski's wisdom about the cloud

Cloud Computing

The Big Lie

Bill Wrobleski

Truth Teller

In 2011, these statements seemed reasonable:

“By 2021, we will no longer buy servers and storage.”

“By 2021, our staff will work primarily on cloud platforms.”

“By 2021, we will burst capacity when we need it.”

“By 2021, ‘cloud computing’ will just be known as ‘computing.’”

“By 2021, we will have closed many of our data centers.”

The Reality of HE Cloud in 2021

SaaS has flourished

- Office 365, Canvas, Workday, Salesforce, Box, etc.

PaaS adoption has been limited

- Mostly content management

IaaS adoption has been extremely slow

- There are a few notable exceptions like Notre Dame and Harvard
- Progress has mainly been in research areas

Very few data centers have been retired

- Several have been built or expanded (e.g., MSU, PSU, Hawaii)

On-premises spend still makes up the lion's share of IT budgets

HE buys, not builds.

Apps need to be architected specifically for IaaS to see its benefits. The day of HE building apps from scratch is over.

Administrative computing rules.

Cloud usage tends to occur most in research computing, where more innovation and transformation can occur, but where little funding is committed.



Cloud enablement is research computing enablement

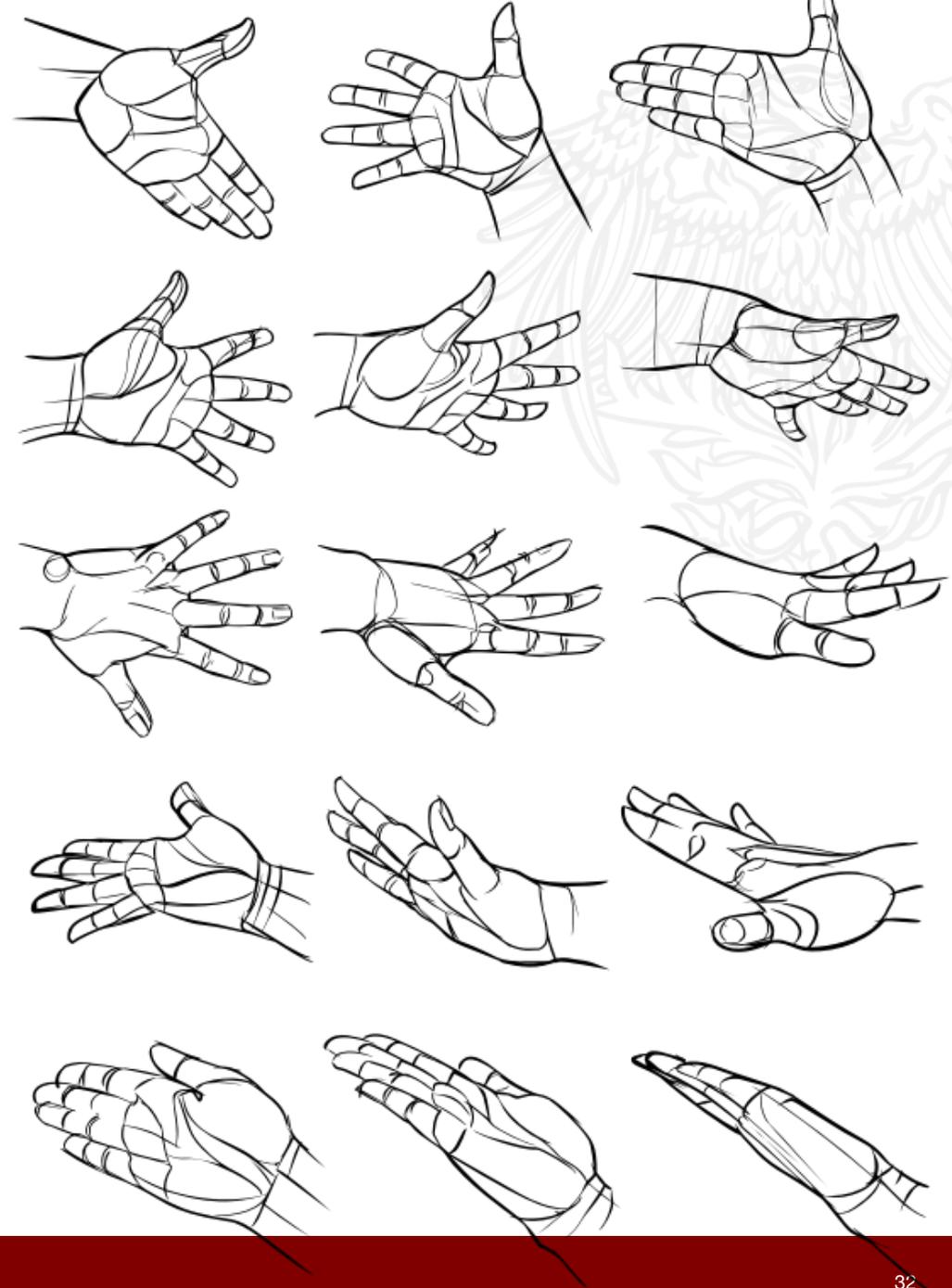


“Time to research”



“Time to research” includes “time to compliance”

Show of hands:
Who here has to support
research subject to
regulations?



CJIS?

800-171?

HIPAA?

What did i miss?

CJIS? -> GovCloud

800-171? -> Azure

HIPAA? -> Azure

Cloud Enablement Team

Director, Information Assurance -> **Compliance, DUAs**

Cloud Security Architect -> **Security and Compliance**

Manager, Secure Data Enclave (on prem) -> **Research Liaison, DUAs**

Director of Infrastructure

Cloud Engineer





4. RECRUIT SECURITY, RESEARCH, COMPLIANCE TO YOUR TEAM

How do I sell that?

“You may be asked to explain in detail how your role directly impacts research.

Participating in cloud enablement allows you to do that.”



2020-2023 Metrics

TOTALS

680 *Cases responded to*

1,150+ *Researchers assisted (faculty & team members)*

\$431M+ *Funded projects assisted*

137 (~90%) *Departments reached*



Parting thoughts

1. UChicago took an unusual path, you can too!
2. Roles and responsibilities will be messy. If they aren't you might be doing something wrong.
3. Cloud enablement is research computing enablement
4. Recruit security, research, and compliance into your team if they're not at the table yet.



Questions?

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