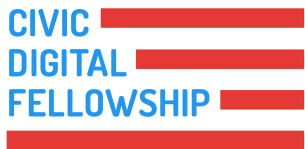


Scaling STRIDES

Amit Rajesh & Sarah Frost

Nick Weber - Program Manager, STRIDES Initiative



AMIT RAJESH

Cornell University
Computer Science & Chemistry

SARAH FROST

UC Santa Cruz
Computational Media

BACKGROUND



STRIDES Initiative

STRIDES Initiative Goal: **Harnessing the power of the commercial cloud in support of biomedical research**

TEAM PRIORITIES

Scale!

- **Thousands** of projects need to be on the cloud in the coming year

Roadblocks:

- Many team members spend **70% of time** answering technical questions from researchers
- Getting researchers onboarded and managing accounts is **prohibitively time-consuming**

OUR PLAN

Three projects:

- Website Creation
- Onboarding Process Automation
- Account Management Automation

Overall goal:

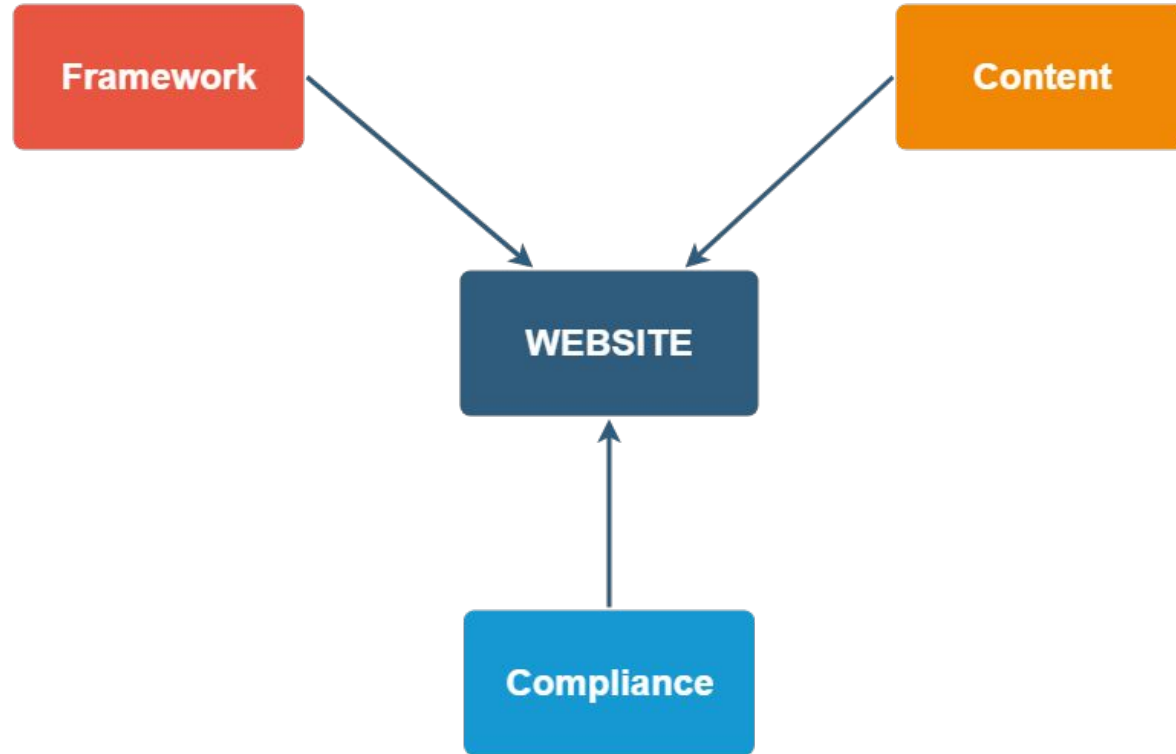
Help **scale the initiative** for the future

PROJECT #1: Website

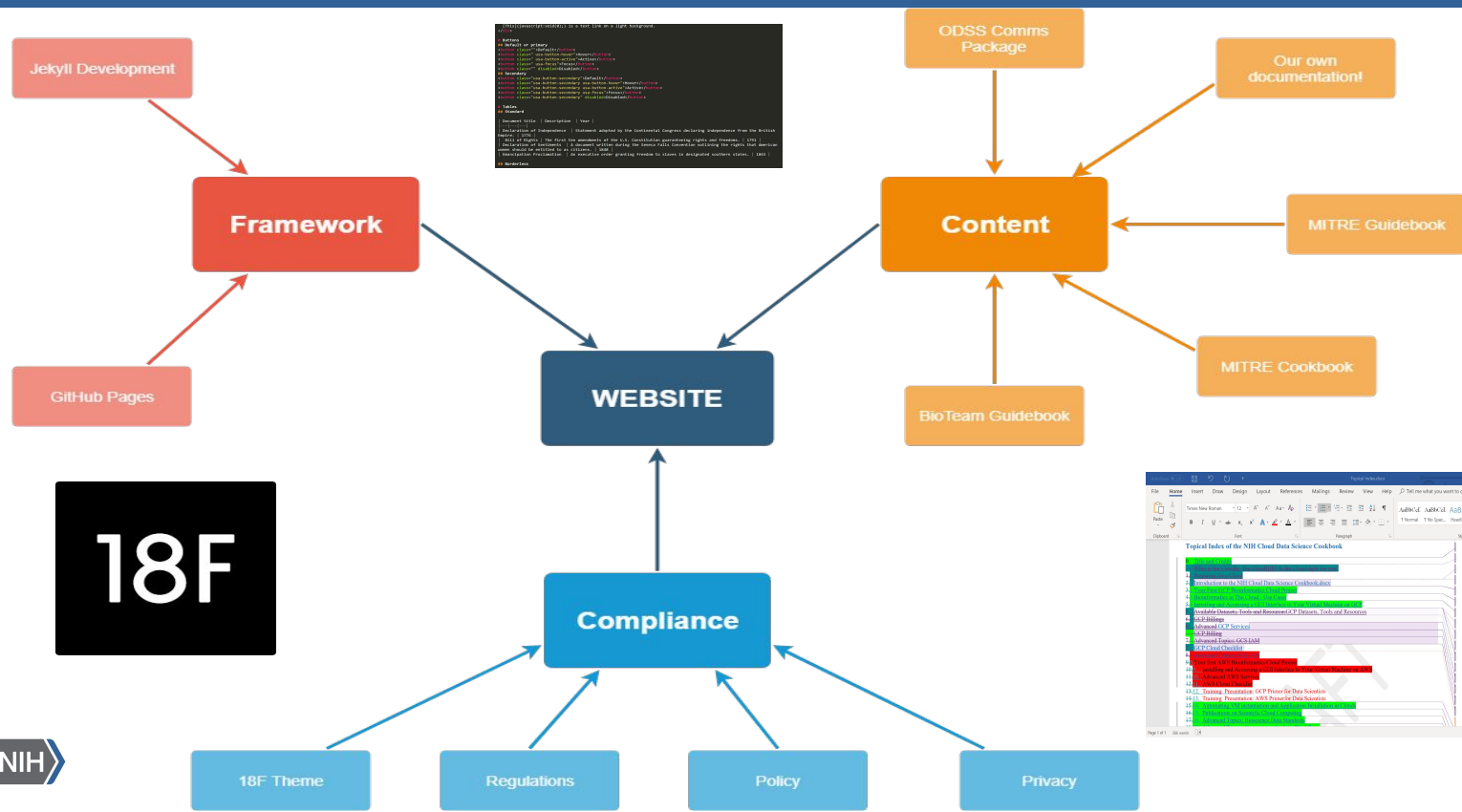
- Lots of documentation but scattered all around word files in Box
- Lack of a centralized information source




DESIGN PROCESS



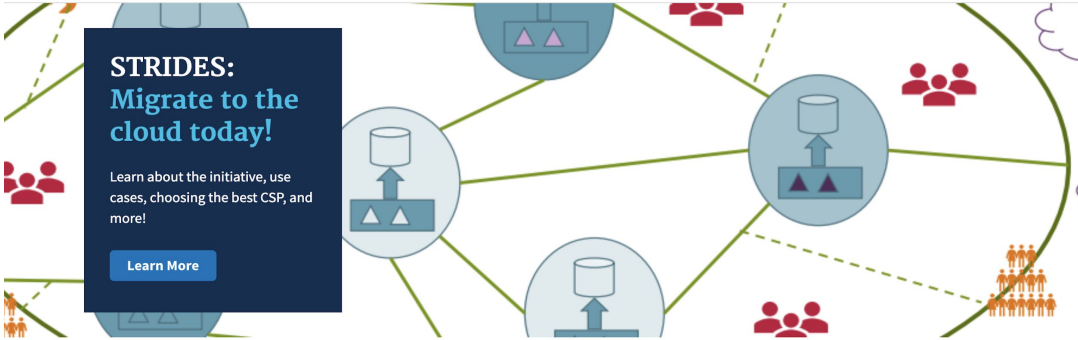
DESIGN PROCESS (CONT)



RESULT

 **STRIDES Cloud Documentation**

[Introduction and General Information](#) | [Biomedical Research in the Cloud](#) | [Introduction to Data Migration](#)



**STRIDES:
Migrate to the
cloud today!**
Learn about the initiative, use
cases, choosing the best CSP, and
more!
[Learn More](#)

Explore the Cloud with STRIDES

The STRIDES Initiative allows NIH to explore the use of cloud environments to streamline NIH data use by partnering with major commercial CSPs. NIH's STRIDES Initiative provides cost-effective access to industry-leading partners to help advance biomedical research. These NIH CSP partners enable access to rich datasets and advanced computational infrastructure, tools, and services.

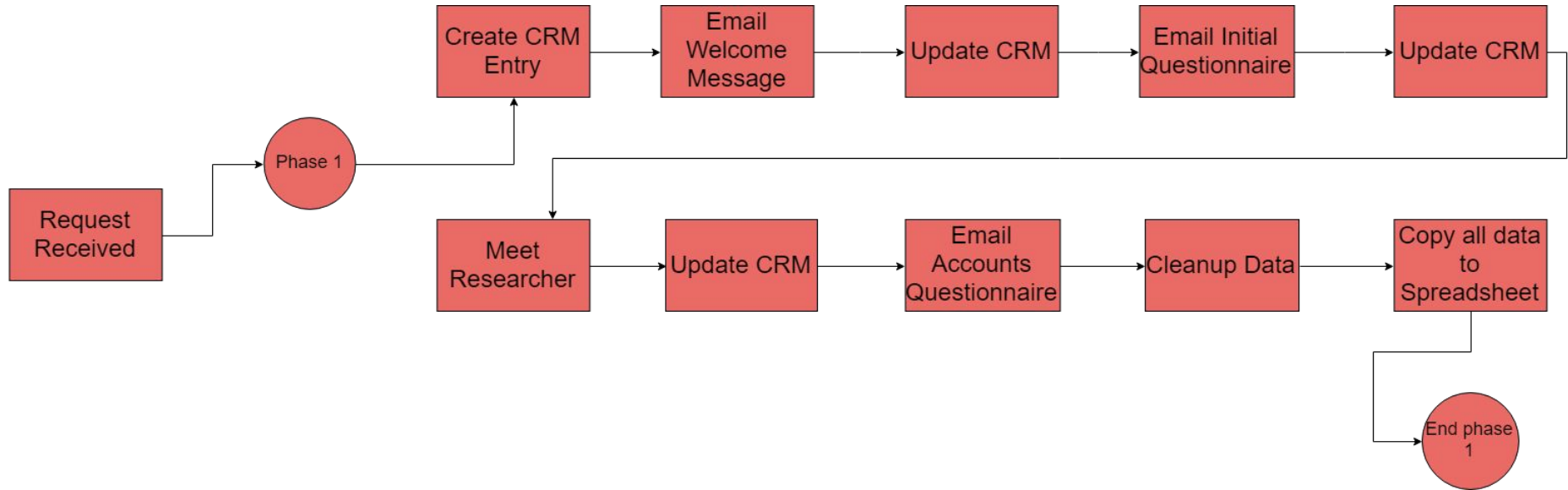
Get in touch with us at CIT_Cloud_Services@mail.nih.gov

PROJECT #2: Onboarding Automation

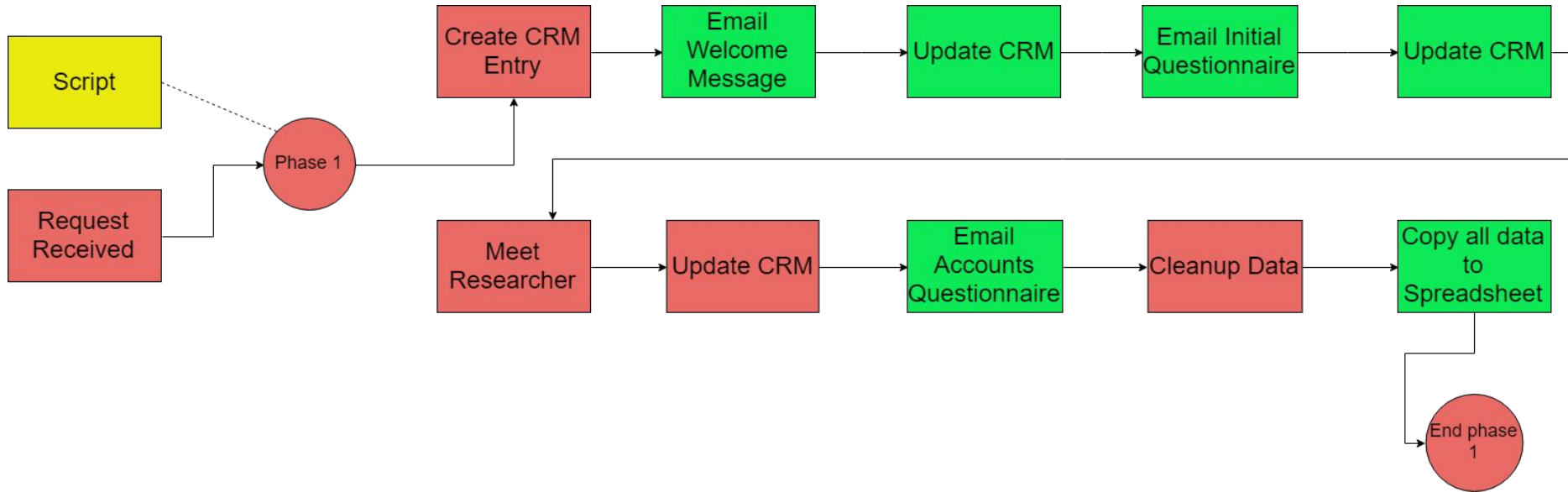
- Long, extensive procedure for reaching out to researchers
- Not utilizing our CRM software enough!



OLD DESIGN PROCESS



MODIFICATION IDEAS



AUTOMATION

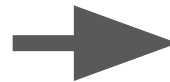
- 1.) Utilized online forms
 - Streamlined, simplified questionnaires
- 2.) Automated the transfer of data
 - Forms to CRM, CRM to Spreadsheet
- 3.) Automated sending emails



ZOHO Forms

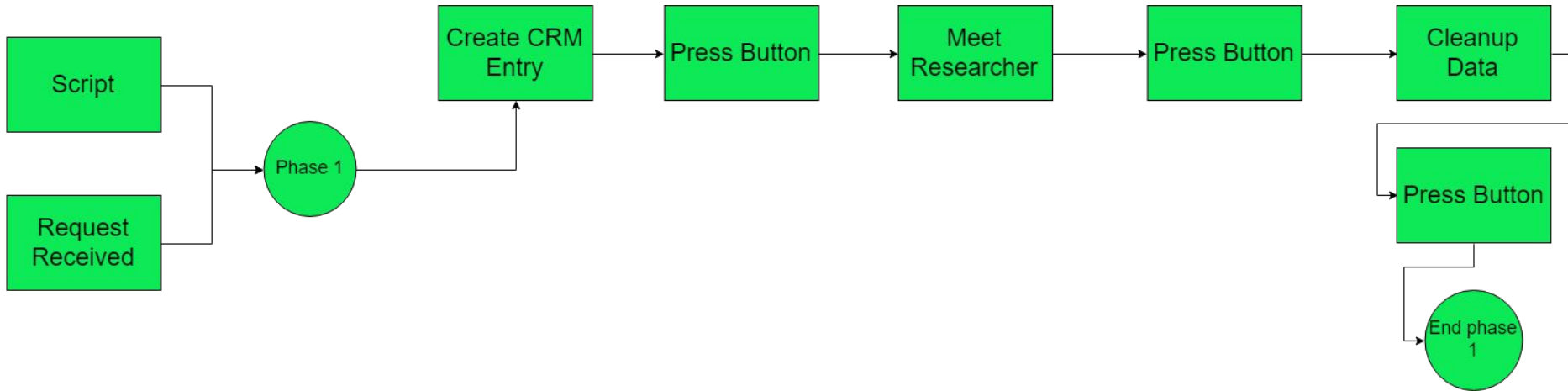
SCRIPT

- Utilized NIH RePORTER
 - Scans every NIH-funded project (hundreds of thousands)
- Gives score based on **abstract** and **project timeline**



30.654

NEW DESIGN



PROJECT #3: Account Management

- Co-workers spend too much time creating and managing accounts on the Cloud
- Much of the process can be automated
 - Challenge: different service providers have different systems



CLOUD AUTOMATION – GOOGLE



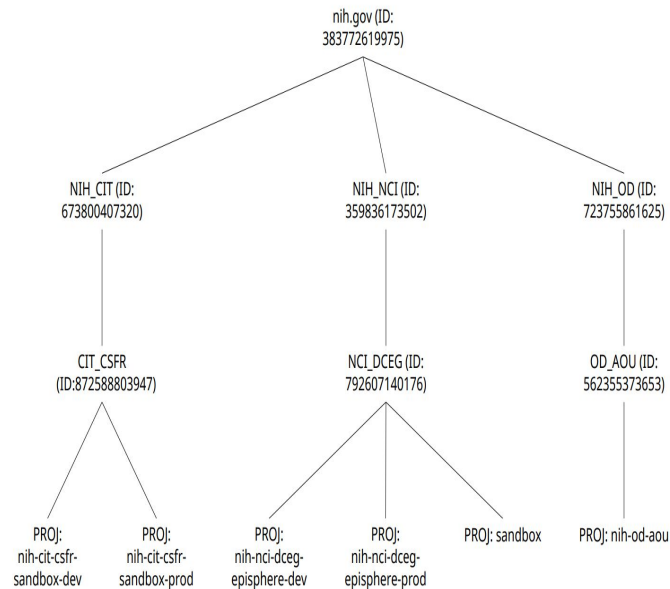
- Responsibilities:
 - Find when account is **improperly named**
 - Find when account has **improper permissions**
 - Find **potential issues** with NIH-cloud hierarchy
- Script?

DETAILS



NIH.GOV ▾ Filter tree ⓘ ↺ ☰

<input type="checkbox"/> Name	ID	Status	Requests	Errors	
<input type="checkbox"/> ▾ nih.gov	383772619975				
<input type="checkbox"/> ▾ NIH_CIT	673800407320				
<input type="checkbox"/> ▾ CIT_CSFR	87258803947				
<input type="checkbox"/> nih-cit-csfr-sandbox-dev	nih-cit-csfr-sandbox-dev				
<input type="checkbox"/> nih-cit-csfr-sandbox-prod	nih-cit-csfr-sandbox				
<input type="checkbox"/> ▸ NIH_NCI	359836173502				
<input type="checkbox"/> ▸ NIH_NHLBI	961015496814				
<input type="checkbox"/> ▸ NIH_NLM	510004994154				
<input type="checkbox"/> ▸ NIH_OD	723755861625				
<input type="checkbox"/> ▸ NIH_STRIDES_MANAGED	404685219011				
<input type="checkbox"/> nih-sra-datastore-protected	nih-sra-datastore-protected				
<input type="checkbox"/> test	test-246419				



CLOUD AUTOMATION – AMAZON



```
# This cell will print out all info of the users in a specified group
# Print out a user's username, and the groups that they belong to.

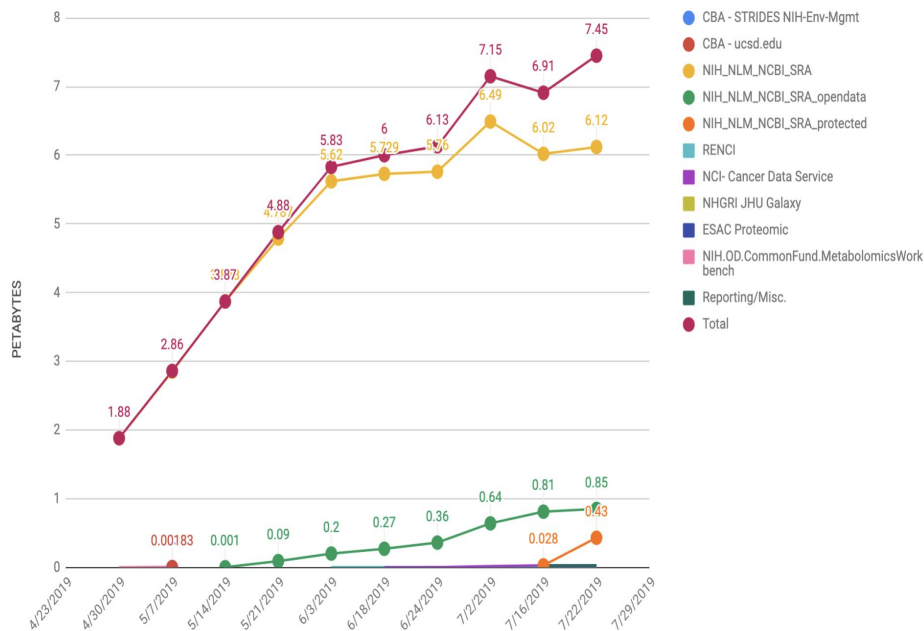
targetGroup = 'Admins'

for key in users['Users']:
    List_of_Groups = client.list_groups_for_user(UserName=key['UserName'])
    UserName = key['UserName']
    for key in List_of_Groups['Groups']:
        if(key['GroupName'] == targetGroup):
            print(UserName)

    print('\n')
    List_of_Groups = client.list_groups_for_user(UserName=key['UserName'])
    print('Username is ' + key['UserName'])
    print('Groups are:')
    for key in List_of_Groups['Groups']:
        print(key['GroupName'])

TotalUser = key
for key in List_of_Groups['Groups']:
    if(key['GroupName'] == targetGroup):
        print('User name is: ' + UserName)
        print(TotalUser)
        print('\n')
```

Reporting and Metrics (AWS)



IMPACT

How do these projects connect?

- Overall goal: Help the initiative **scale**

Website:

- Introduces **central location** to learn about STRIDES

Onboarding Automation:

- **Streamlines** process for getting researchers into the cloud

Account automation:

- **Simplifies** management of cloud accounts

THANK YOU!



**Accounts
Manager
Todd Reilly, PhD**



**AWS Accounts
Nigel Horne**



**STRIDES
Program Manager
Nick Weber**



**Product
Manager
Sherika Wynter**



**Business
Analyst
James Davis**



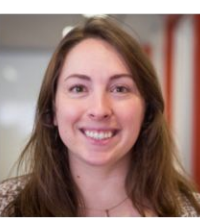
**Policy &
Outreach
Valerie Virta, PhD**



**Google
Accounts
Tom Shaw, PMP**



**Operations
Matt Gieseke**



**Civic Digital
Fellow
Sarah Frost**



**Civic Digital
Fellow
Amit Rajesh**



**Cloud
Architect
Anteju Nuhanović**



**Cloud
Architect
Joel Peterson**