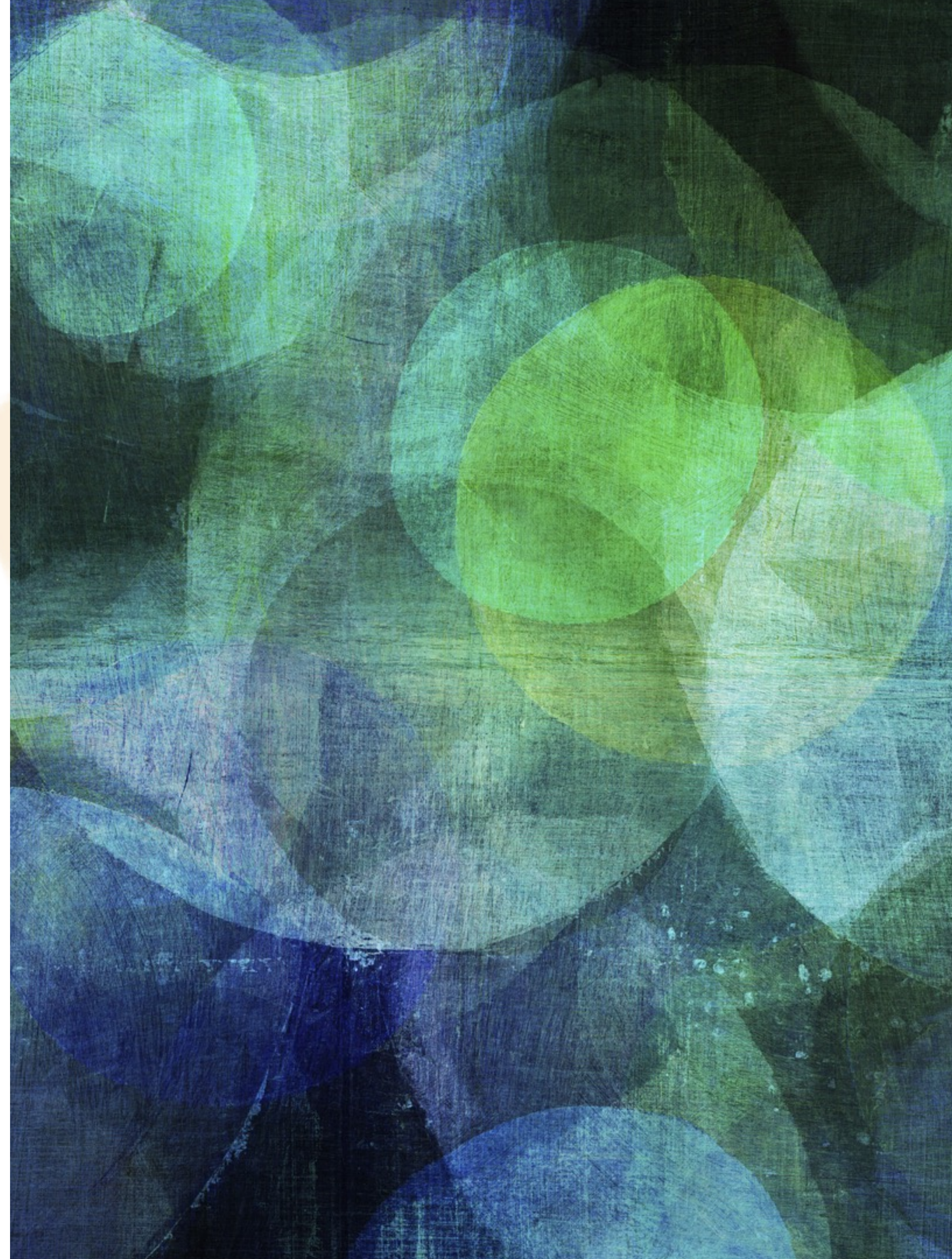


AWS DATA PROCESSING INFRASTRUCTURE 4C

Nan Dun
nan.dun@acm.org



COPYRIGHT POLICY 版权声明

All content included on the Site or third-party platforms as part of the class, such as text, graphics, logos, button icons, images, audio clips, video clips, live streams, digital downloads, data compilations, and software, is the property of BitTiger or its content suppliers and protected by copyright laws.

Any attempt to redistribute or resell BitTiger content will result in the appropriate legal action being taken.

We thank you in advance for respecting our copyrighted content.

For more info see <https://www.bittiger.io/termsfuse> and <https://www.bittiger.io/termservice>

所有太阁官方网站以及在第三方平台课程中所产生的课程内容，如文本，图形，徽标，按钮图标，图像，音频剪辑，视频剪辑，直播流，数字下载，数据编辑和软件均属于太阁所有并受版权法保护。

对于任何尝试散播或转售BitTiger的所属资料的行为，太阁将采取适当的法律行动。

我们非常感谢您尊重我们的版权内容。

有关详情，请参阅

<https://www.bittiger.io/termsfuse>

<https://www.bittiger.io/termservice>



DISCLAIMER

- I. “All data, information, and opinions expressed in this presentation is for informational purposes only. I do not guarantee the accuracy or reliability of the information provided herein. This is a personal presentation. The opinions expressed here represent my own and not those of my employer.”*
- II. “The copyright of photos, icons, charts, trademarks presented here belong to their authors.”*
- III. “I could be wrong.”*

OUTLINE

1. SQS Interfaces and Operations
2. DynamoDB Interfaces and Operations
3. Docker and Container
4. Local Debugging
5. Production Debugging
6. Deploy
7. Add more worker by ASG
8. Add more worker by Elastic Container Service

IAM ROLE FOR SQS, DDB, AND ECS

- SQS
 - <http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-creating-custom-policies.html>
- DDB, Customized permissions from full access
 - http://docs.aws.amazon.com/directoryservice/latest/admin-guide/role_ddb_full_access.html
- ECS
 - http://docs.aws.amazon.com/AmazonECS/latest/developerguide/IAMPolicyExamples.html#IAM_container_instance_policies

DYNAMODB LOCAL

- For local debug purpose, just point your DynamoDB to <http://localhost:8000>
- A Java application running on local host
- `scripts/run_ddb.sh`
 - Start: a new DynamoDB process if not running, do nothing if there is one running
 - Stop one if there is one running



DOCKER AWS REGISTRY

- “View push commands” <https://us-west-2.console.aws.amazon.com/ecs/home?region=us-west-2#/repositories>
- Login
 - \$ `aws ecr get-login --region us-west-2`
- Build
 - \$ docker build -t taxi .
- Tag
 - \$ docker tag taxi:latest 123456789.dkr.ecr.us-west-2.amazonaws.com/taxi:latest
- Push
 - \$ docker push 123456789.dkr.ecr.us-west-2.amazonaws.com/taxi:latest

ECS OPTIMIZED AMI

- Specific for container instances
 - http://docs.aws.amazon.com/AmazonECS/latest/developerguide/ecs-optimized_AMI.html
- cluster/build_ami.sh
 - Build two AMIs using a template by setting different
 - Base AMI
 - AMI name



REGISTER INSTANCE TO CLUSTER

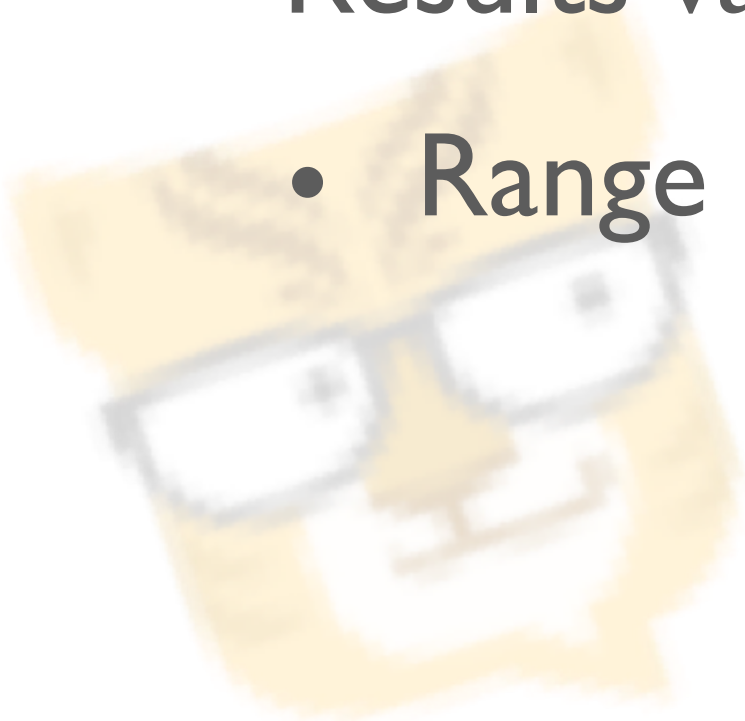
- Register any instance the cluster/service can schedule the tasks
 - `$ echo ECS_CLUSTER=${ECS_CLUSTER_NAME} >> /etc/ecs/ecs.config`
 - or put it into userdata for auto registration



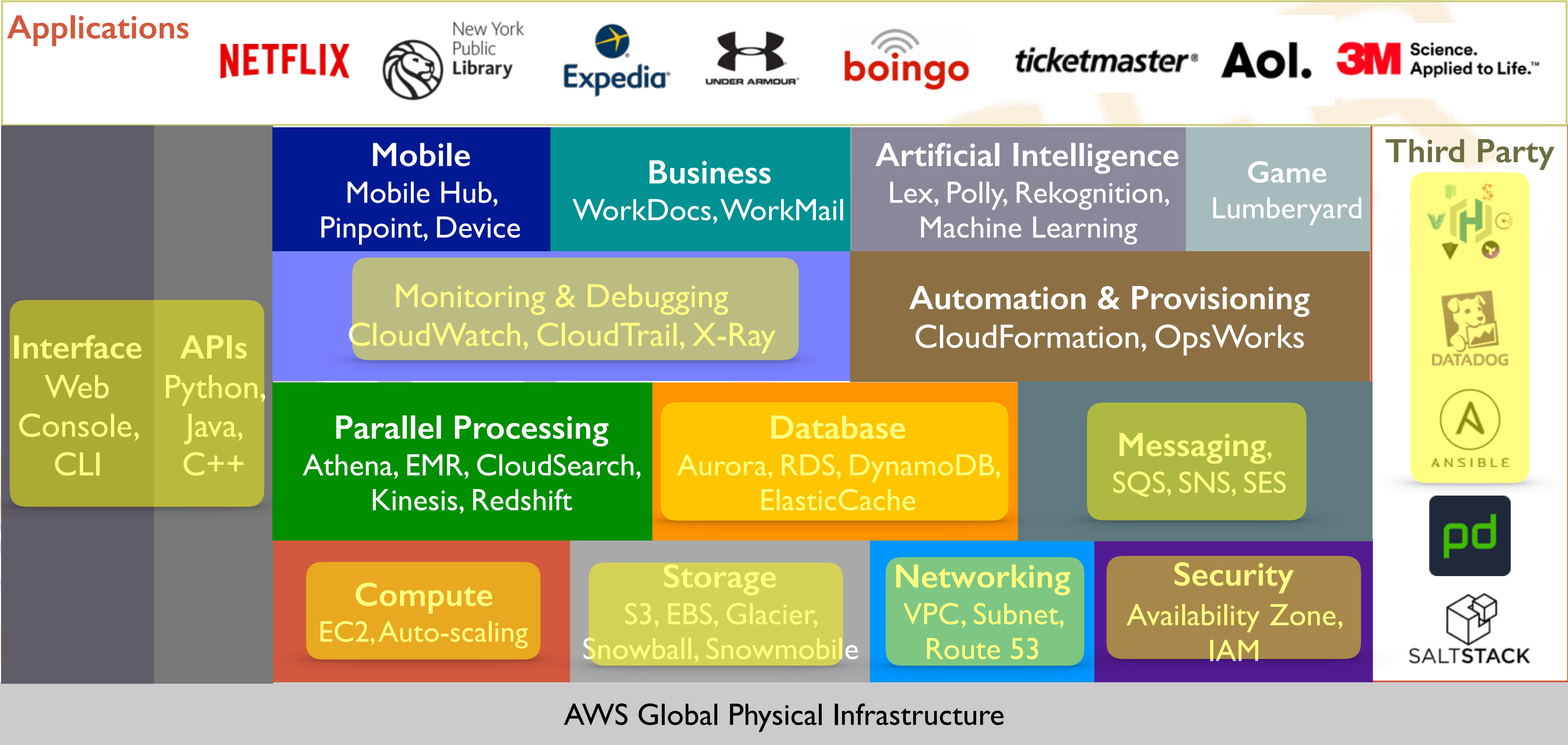
BITTIGER

OPTIMIZATION

- Further reduce 10% data size
 - By using file date as base date instead of 2009/01/01
- Bounding box of NYC
 - Filtering out some invalid data
- Using C++ implemented point testing algorithms
- Results validation
 - Range based check



SUMMARY



ACCESS...

- No more access to Bitbucket repo, S3 Bucket after
 - 23:59:59 March 31, 2017
 - I will keep updating from time to time
- Mailing group
 - Permanent
 - Limited Q&A



“

Which is your favorite AWS service?



BITTIGER

“

How do you think about the future of AWS?



“

What is most challenge thing in this class?



“

Anything needs to be improved?



BITTIGER

QUESTIONS

- bittiger-aws@googlegroups.com



BITTIGER

Copyright 2017, Nan Dun, all rights reserved