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Sponsors

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aws

Bad Practices On AWS
Wifi - Guest
pass Cube@11999

AWS Israel Community

- Founded - Feb **2013**
- **82** meetups with **~6000** Members
- Monthly meetups
- No Marketing, No bullshit
- All AWS: AI, BigData, Serverless, Containers, etc

MEET THE TEAM

Shimon Tolts

Arthur Schmunk

Tal Hibner

Niv Yungelson

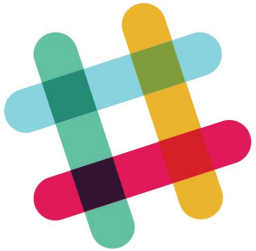
Eitan Sela

Andrei Burd

Doron Rogov

Boaz Ziniman

Join the Community!



https://bit.ly/2zJJ3Fh

https://www.meetup.com/AWS-IL/

https://www.meetup.com/AWS-IL/

aws.org.il

AWS User Group Israel

HOME ABOUT COMING MEETUPS SPEAKERS THE LEADERSHIP TEAM

Coming meetups

Coming meetups

- Big Data on AWS - 2018-07-16 18:00 @ AWS Offices.

Past meetups

2018

- Guest Meetup: AWS Cloud Financial Governance Practice

Upcoming Meetups

25/12 AWS Community Day - Call For Papers.

Bad Practices On AWS

- Partly Cloudy by **Avishai Ish Shalom** - Engineer in Residence at Aleph VC
- Scheduling and sending tens of thousands of emails per day with AWS services by **Ofer Mark** - VP R&D in Cybeready.
- Serverless Best Practice by **Danilo Poccia** - Evangelist, Serverless at Amazon Web Services

Partly Cloudy

Avishai Ish-Shalom

ALEPH

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What is “the cloud”

The Cloud is

- A set of (3rd party) APIs
- Billed by usage (activations, time used)
- API managed (provisioning, etc)

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The following stories are based on true events.

The names and some details have been changed to protect the people involved.

The curious case of The Human autoscaler

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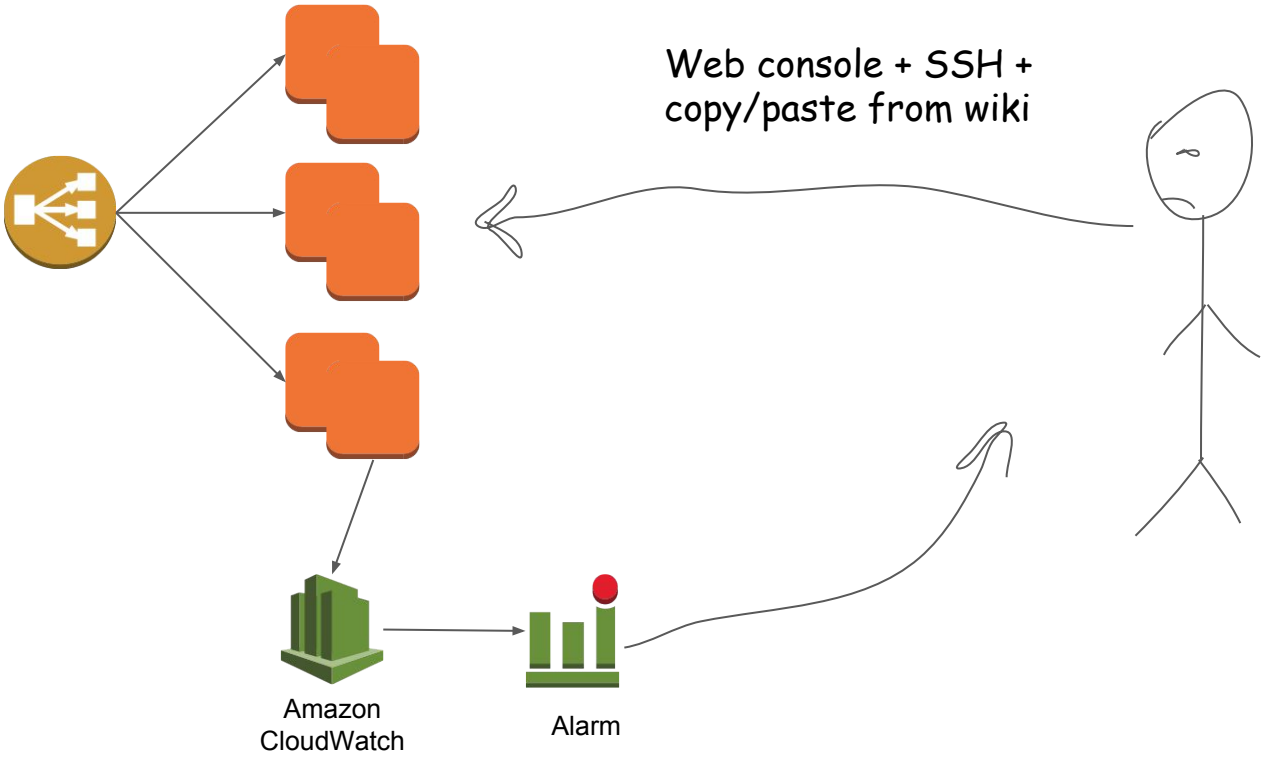
Web console + SSH +
copy/paste from wiki
Amazon
CloudWatch
Alarm

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We’ve come a long way baby

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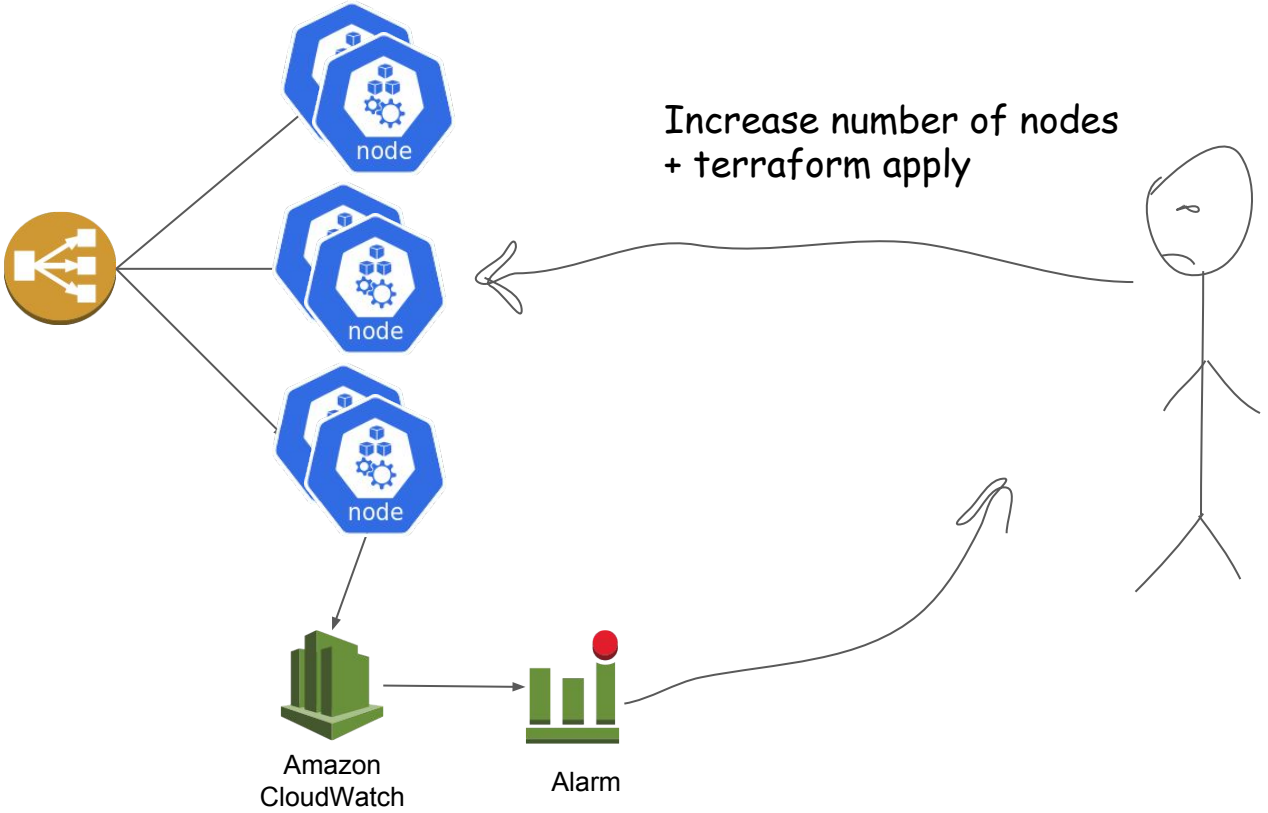
node
node
node
Increase number of nodes
+ terraform apply
Amazon
CloudWatch
Alarm

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Service APIs, Management APIs, they all looks the same to me


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Let’s take SQS for example

- Billed by messages, not # of queues
- 1 API call to create/delete Queue
- Why not create 100 queues? 1000? 10000?

Q: How many message queues can I create?

You can create any number of message queues.

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1 MILLION QUEUES

We could be together but you're using terraform to provision SQS

Would you build a datacenter?

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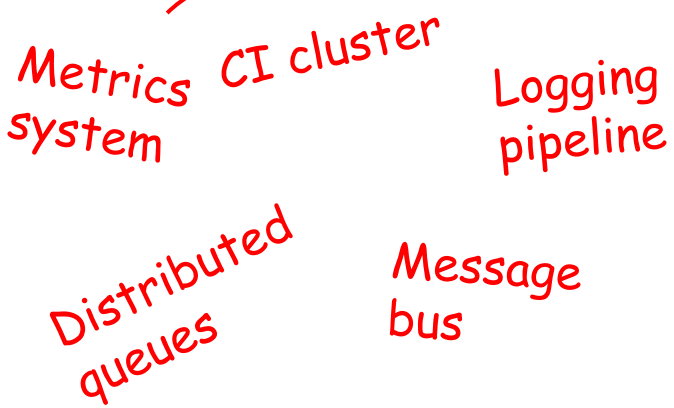
Of course not

Who wants to deal with capacity planning, high availability, networking, backups, keeping inventory, server upgrades, security and all the other wonderful stuff you get with building your own ~~racks~~?



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The cost of hosted infra for startups

Suppose “rolling your own” delays the product by 3 months:

- Startup burn rate: 150K-200K $
- Cost of 3 month delay -> 450K-600K $

And that’s BEFORE you hit security, scale or reliability issues for real

Imagine a world, in which you build a unique***** for your app

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You build apps using APIs available, not the other way around


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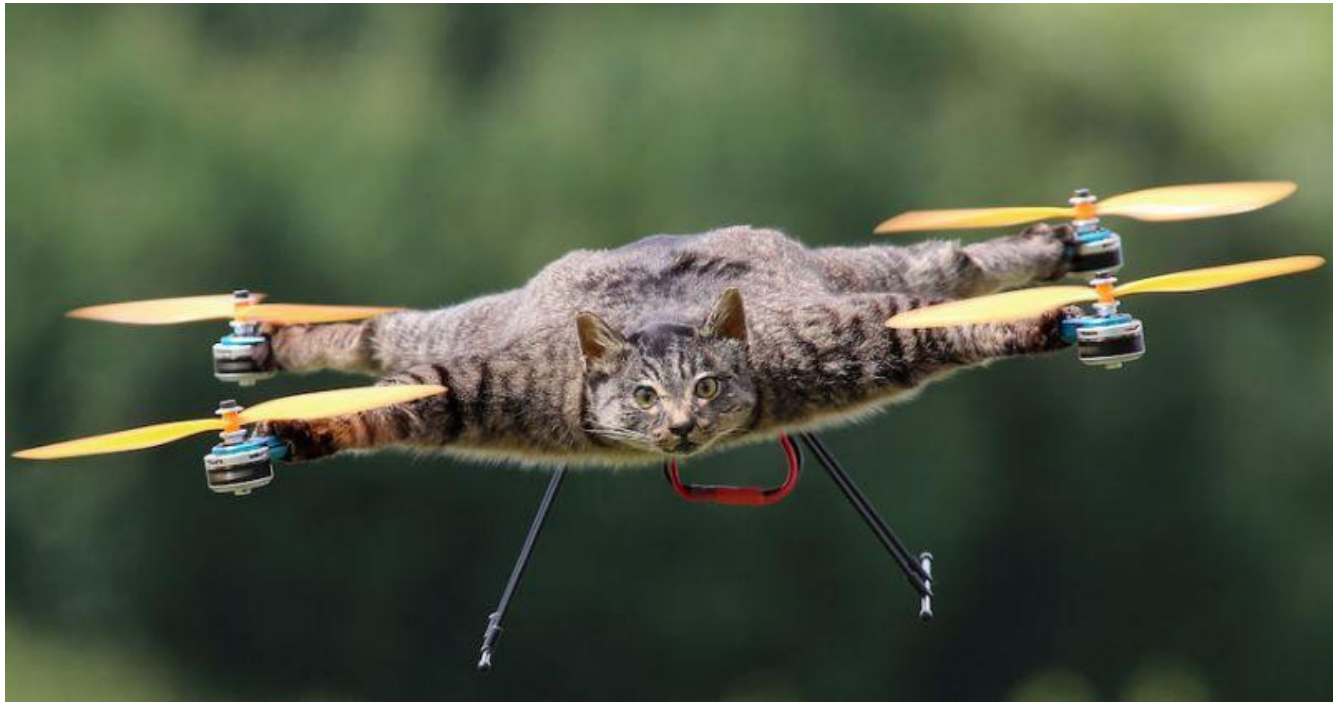
The flying developer fallacy



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A developer must be able to work on a plane!

You may be familiar with the “softer” versions:

“Every developer must be able to run local dev environment on his laptop”

“We use Vagrant/docker/k8/nomad/openstack(OMFG) on dev laptops”

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What it actually takes:

- Distributed version control, with branching model
- CI, tests
- Offline libraries repository
- All the API docs
- All the docs
- The Docs search server
- All the github issues, for all libraries
- StackOverflow
- Goolge groups

Oh, and MySQL, ELK, Graphite, K8, 12 dependent services, 4 cores and 8GB RAM. But at this point, who cares anymore?

Ever took a 4GB heap dump from production?

Give me a dev server, or give me death

In the Cloud you are always online.
No exceptions.


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Inefficient efficiency

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Vim or Emacs?

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Threads or Event loop?

I don't care

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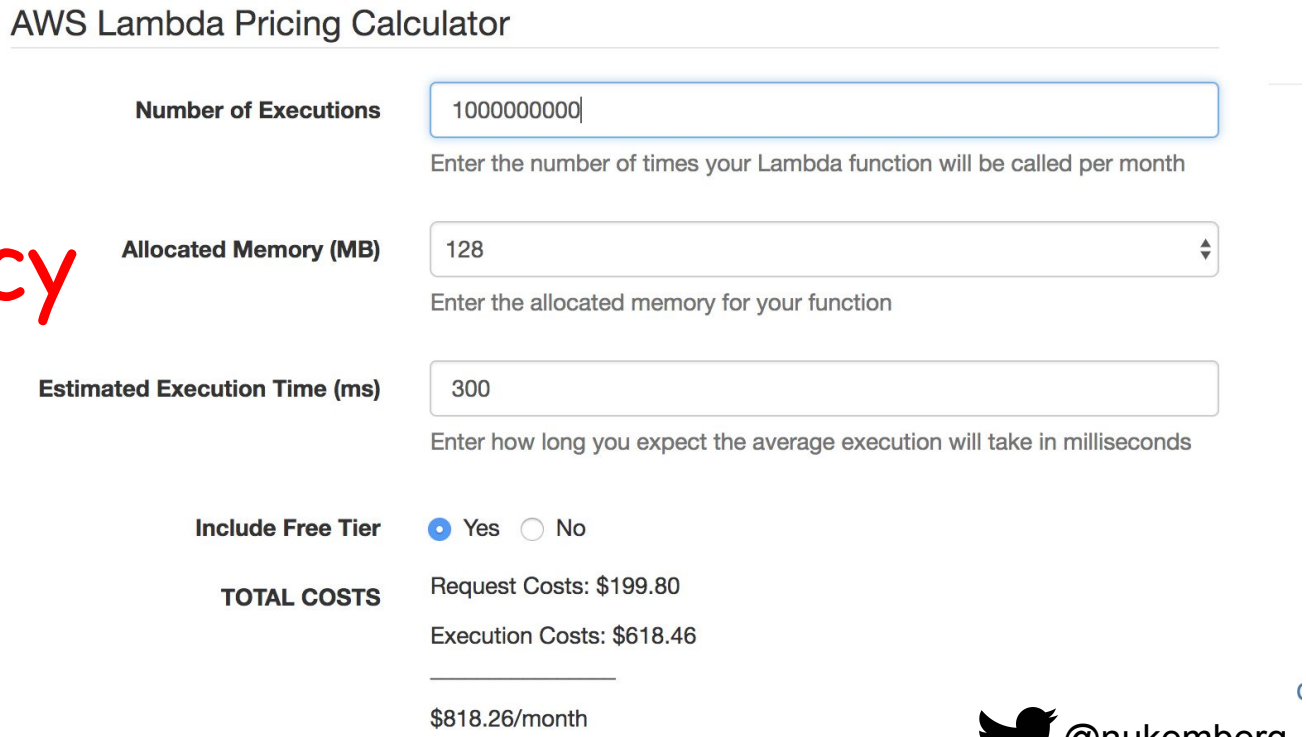
Lambda functions billing

Notice what's not here?

Concurrency



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Concurrency is Amazon’s problem.
I honestly don’t care **how** they do it.


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Questions?

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God, grant me strength to maintain the things that matter,

Courage to outsource the things that don’t,

And wisdom to know the difference.

Thank you!

https://jobs.aleph.vc/

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Scheduling and Sending Tens of Thousands of Emails per day with AWS Services

...

Ofer Mark, Cybeready

About me

- 12 years experience
- Low level through mobile through WEB
- Managing development at Cybeready





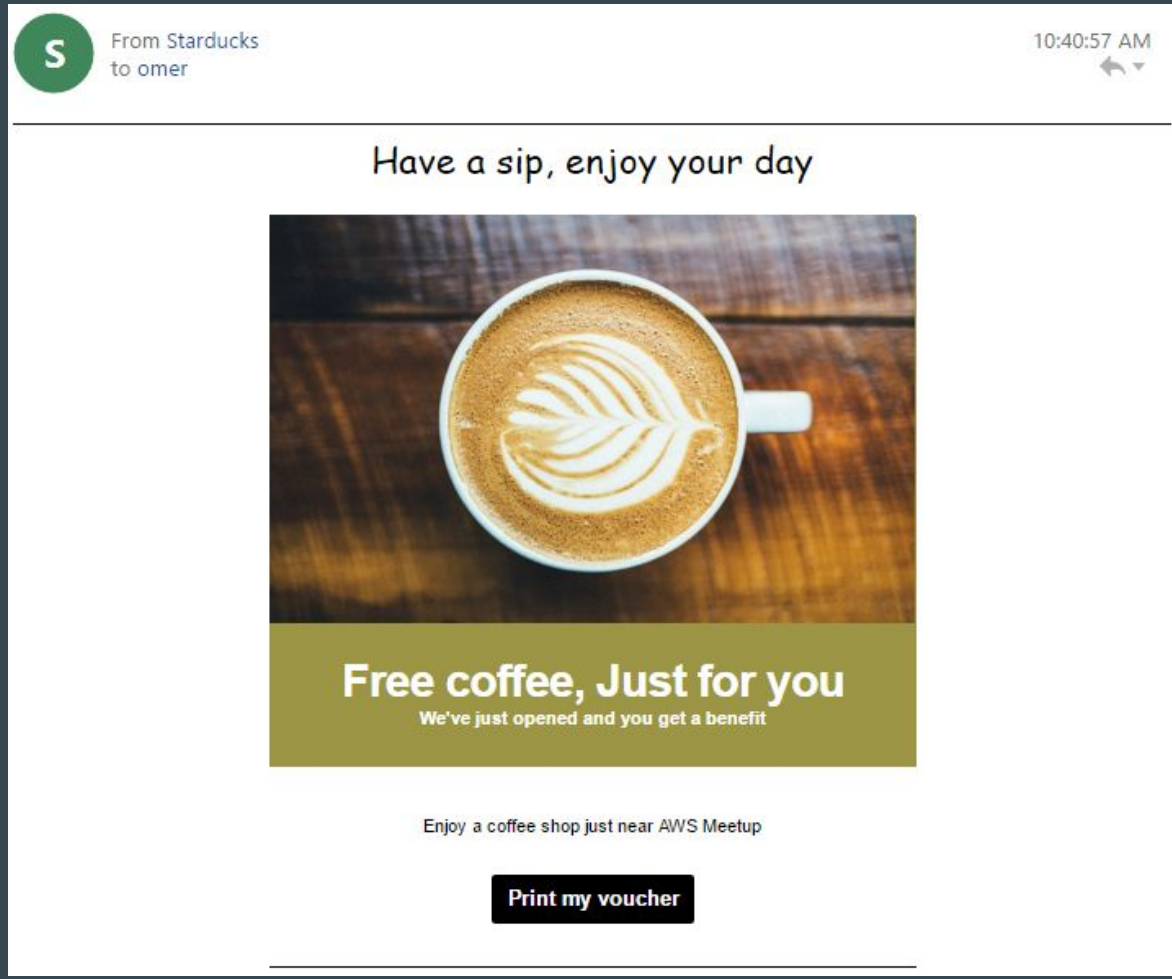




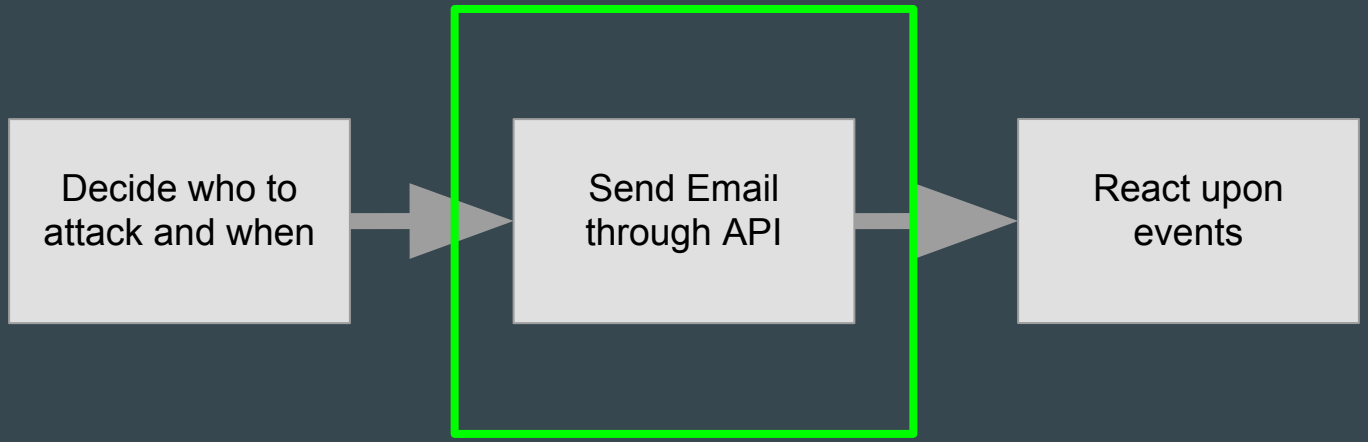


About Cybereready

- Email phishing simulations
- Multilingual from day 1
- Israel, Ukraine, US



The Problem


Decide who to attack and when
Send Email through API
React upon events

What will work?

- Store each attack's relevant data in DB
- Run a cron job every minute to handle attacks

Caveats:

- Manage servers, Logs, Errors, DB
- Timing jobs, pipeline
- High availability issues

What we wanted to use?

Cloudwatch Rules

Tutorial: Schedule AWS Lambda Functions Using CloudWatch Events

Rules	100 per region per account. You can request a limit increase. For instructions, see AWS Service Limits.

DynamoDB - TTL Trigger

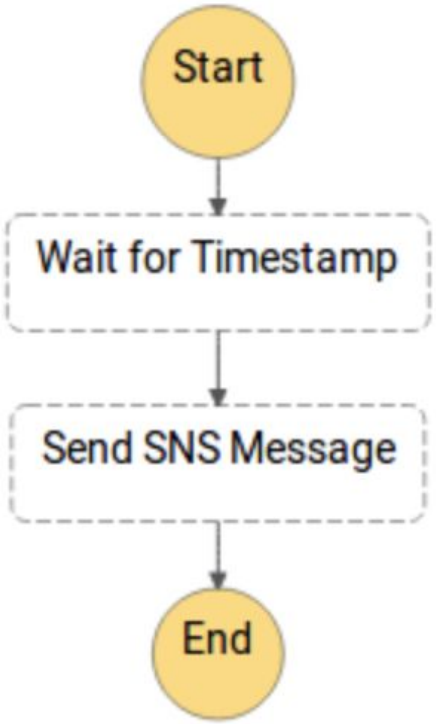
DynamoDB Streams and AWS Lambda Triggers

Important

DynamoDB typically deletes expired items within 48 hours of expiration. The exact duration within which an item truly gets deleted after expiration is specific to the nature of the workload

You can back up, or otherwise process, items deleted by Time To Live by enabling Amazon DynamoDB Streams on the table and processing the Streams records of the expired items.

Step Function



Start->Wait->Sns->Lambda

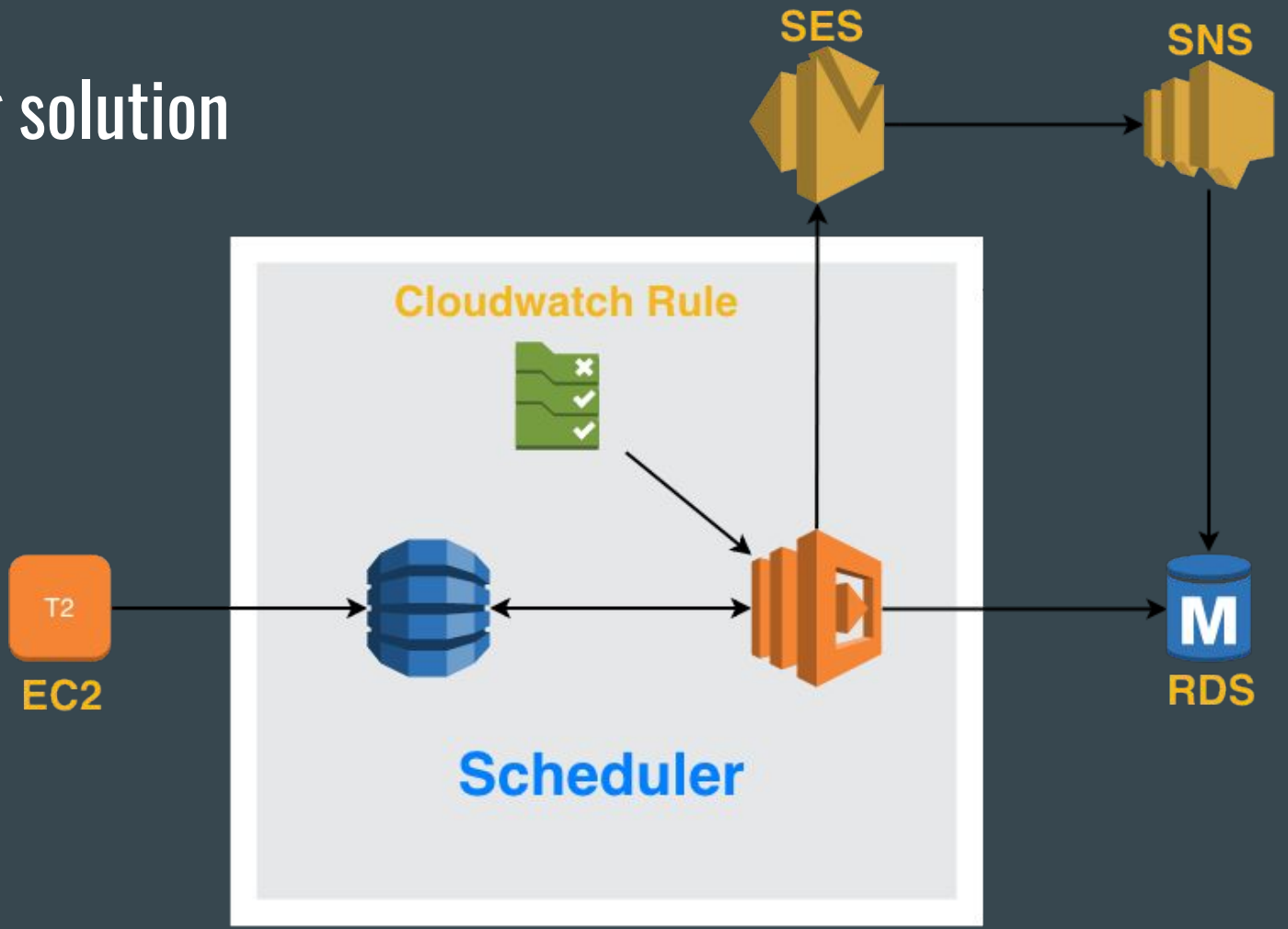
State change costs $0.000025 (you get 4000 free).

If we send ~20K emails per day:

600,000 * $0.000025 * 3 = 45$

- Lots of limits re execution time, number of state machines, and price.
- It's costly for our use case

Working solution



Not so fast...

- DynamoDB auto scaling, write capacity
- Lambda cost calculations
- Add more providers

Questions?