COLLABORATE 17
TECHNOLOGY AND APPLICATIONS FORUM FOR THE ORACLE COMMUNITY

Cloud Deployment and DevOps on Steroids

Leverage Bots and Artificial Intelligence

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Session ID: 10066

#C17LV

Agenda

- Introductions
- Cloud Deployments
- DevOps
- Infrastructure As Code
- A World of Bots
- Bot Design Patterns
- Demo – Bots
- AI
- Demo - Echo

Introduction – About Me

- Engaged with CTR as the Director, Infrastructure & Cloud Solutions.
- 17+ Years working with Technology Enterprise Applications – Oracle, Databases, Linux, Python & NodeJS
- 6+ Years building and supporting enterprise class data driven applications that leverage the cloud.
- Certified AWS, Oracle, Java, PMP, CSM & Six Sigma Green Belt.
- More about me ? http://samx18.io

Introduction - CTR

- Global Systems Integrator – North Americas & Asia Pacific locations.
- Working with clients since 1998 to Deploy & Support Applications both on site and in a cloud model.
  - Enterprise Applications
  - Data & BI Solutions
  - Cloud Solutions – AWS, Azure , Google Cloud Platform
  - Automation – Bots & AI
  - DevOps Offerings
- We <3 Partners – AWS, Oracle, Tableau, NetSuite, …

More about CTR? http://ctrworld.com

Cloud Deployments

What we mean by best practices as they relate to cloud deployments

- Security built-in by design
- Scalable, redundant and high availability
- Standardization across the enterprise
- Loosely coupled – Micro services
- Services, Not servers.
- Focus on automation

DevOps

Part Dev + Part Ops

Operations working together with developers & engineers to get things done faster in an ***automated*** and ***repeatable*** way.

- Continuous Integration
- Continuous Delivery
- Continuous Deployment

Infrastructure Automation

Infrastructure As Code (IAC)

- Bringing the same principle DevOps to infrastructure deployments with IAC.
- Rethinking the way we architect, provision and manage our infrastructure resources.
- Break infrastructure down into modular services
- Tie them together in a way that can be versioned and deployed just as code.
- A tool and a language to template your infrastructure.

Infrastructure As Code (IAC) - Tools

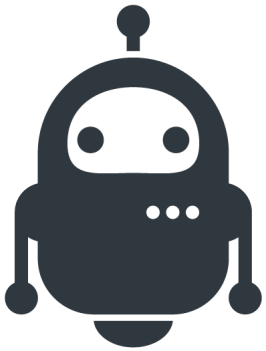
Example: a typical CloudFormation template that provisions an instance within an existing network.

(*CloudFormation is a AWS tool that helps you to template your cloud resources in a JSON document*)

1. root@ip-10-0-1-123:/home/ec2-user (vim)

```
{
  "Resources" : {
    "myCFEc2" : {
      "Type" : "AWS::EC2::Instance",
      "Properties" : {
        "KeyName" : "MyOregonEC2Key",
        "ImageId" : "ami-d0f506b0",
        "InstanceType" : "t2.micro",
        "IamInstanceProfile" : "S3-Admin-Access",
        "NetworkInterfaces": [{
                "AssociatePublicIpAddress" : "true",
                "DeviceIndex" : "0",
                "GroupSet" : ["sg-f667ed91"],
                "SubnetId" : "subnet-9fb0a9e8"
        }]
      }
    }
  }
}
```

Bots!

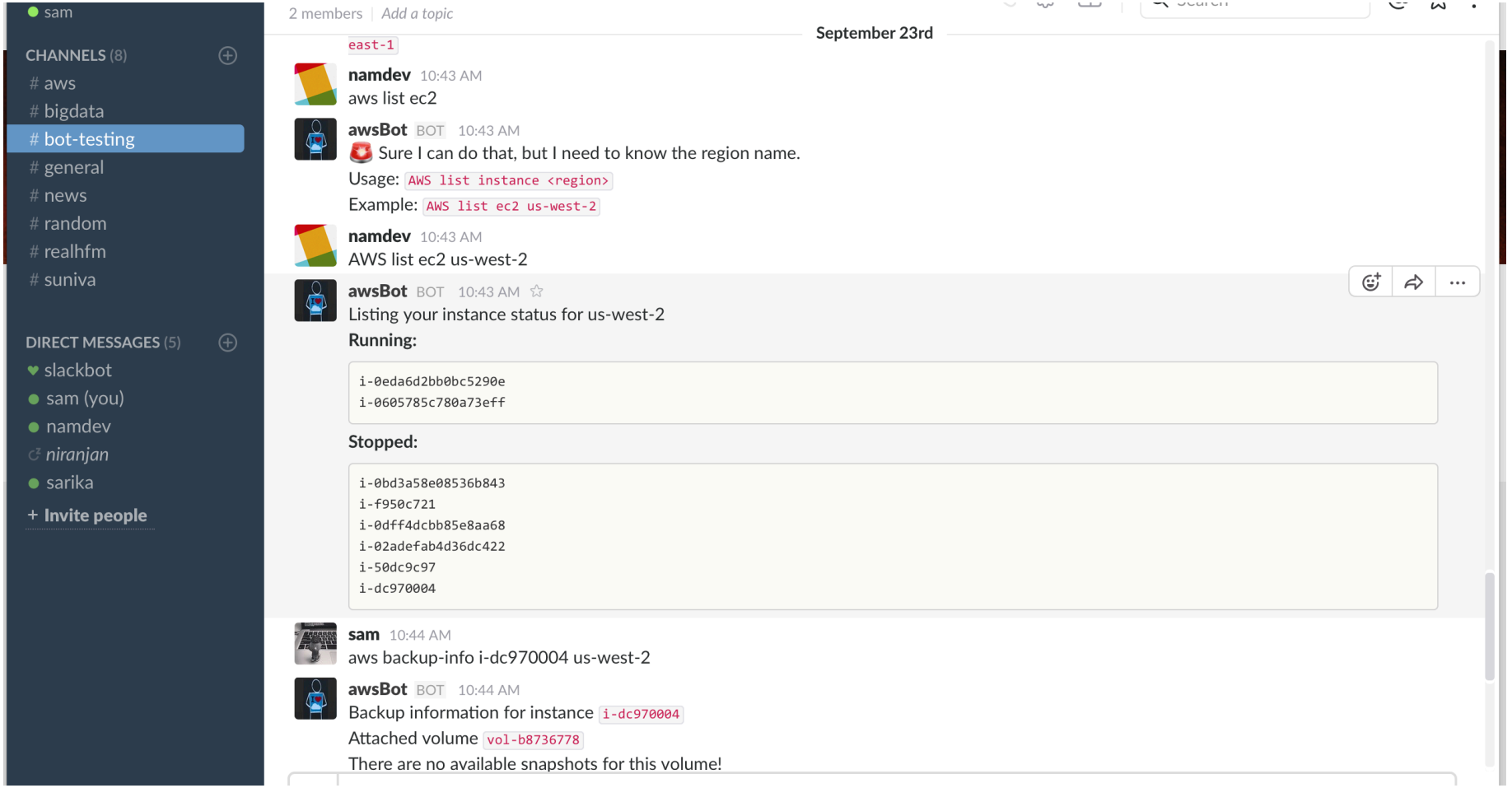


We will love bots until they take over, but until then we will keep making them.

Why Bots? Why not plain old apps?

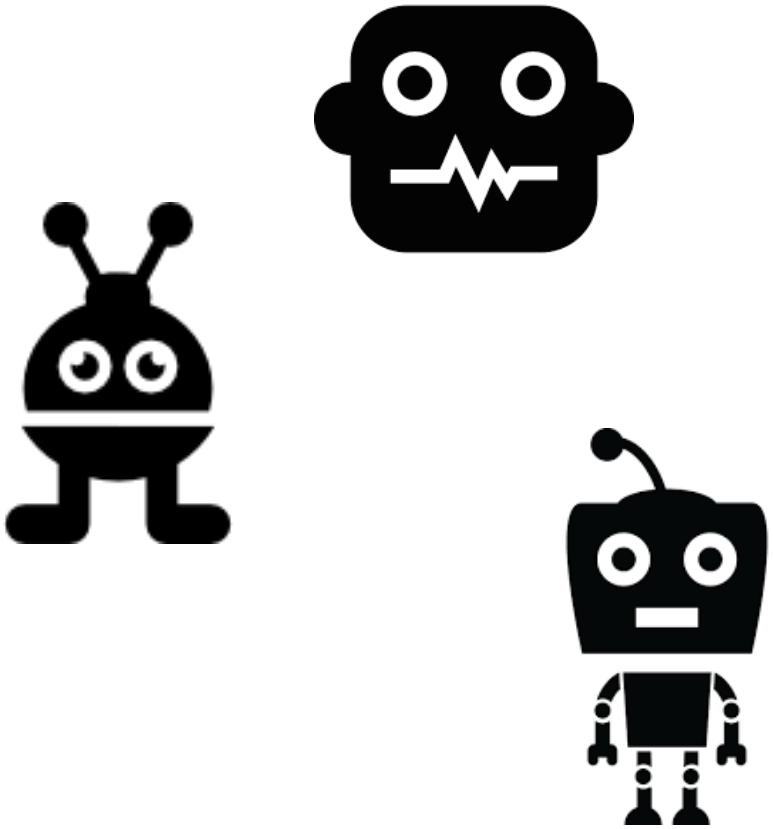
- Scale better than websites and applications
- Better human interaction – Adaptability
- Intuitive to use
- Omnipresent & Ubiquitous – Across platforms & services
- Pluggable with existing enterprise applications – Slack

Bot – Example Deployed on Slack

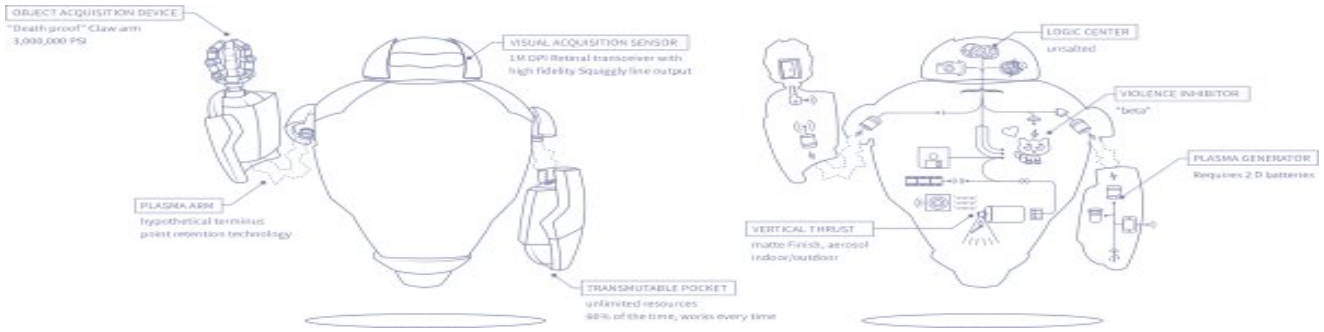


Classification: All bots are not created equal

- Notifiers
- Reactors
- Responders
- Conversationalist
- Executors



Design Patterns - Bots



- Cloud Deployed
- Stateless (with some level of persistence)
- Serverless
- Security, Authentication & Authorization
- Scalable & Redundant- Webhooks & APIs

Bot – In Action

Live Demo

AI – The next frontier

- Speech & Language Processing
  - Text / Language processing – AWS Lex
  - Speech & Voice – AWS Alexa Voice Service

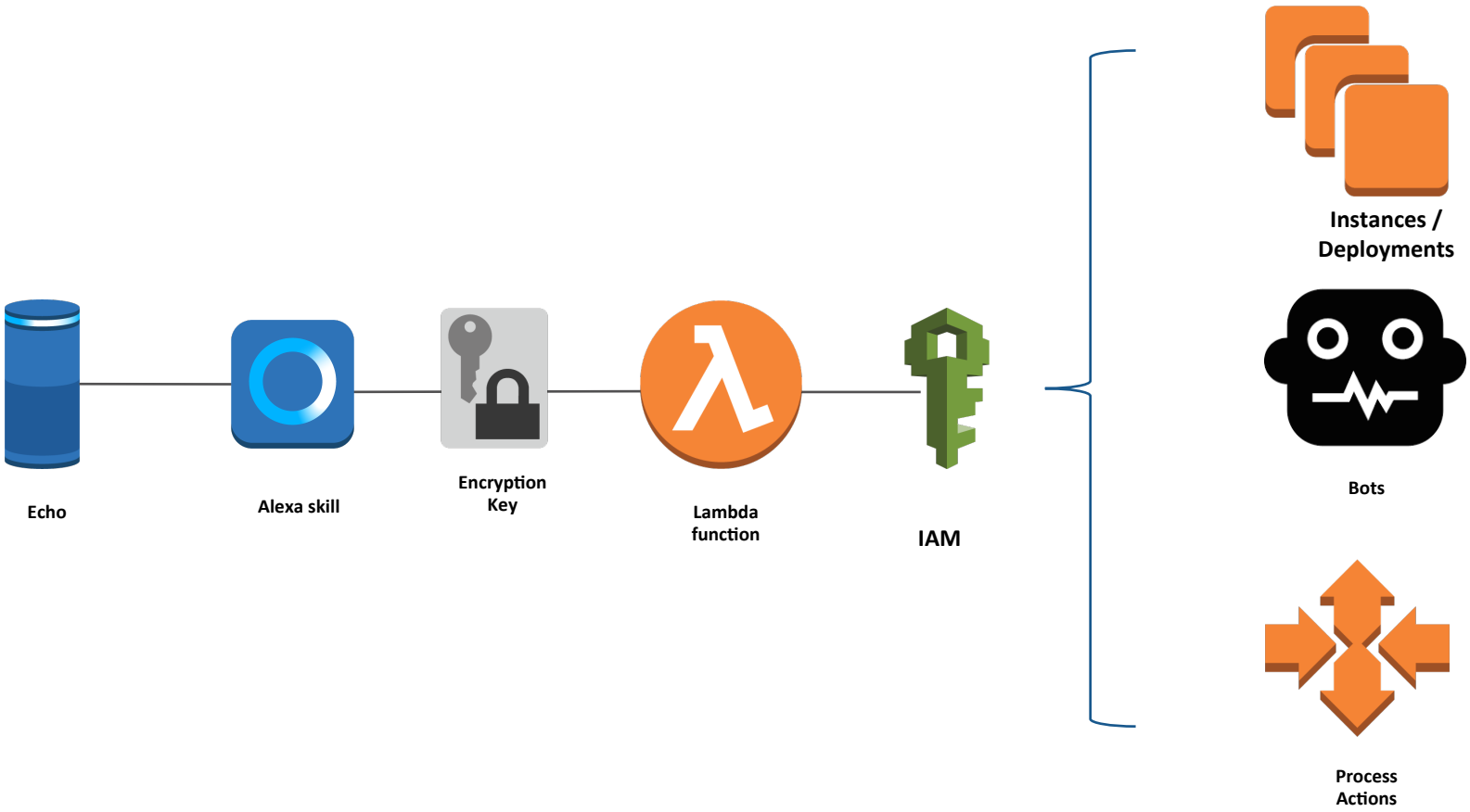
- Machine Learning
  - Log Analysis
  - Error Detection

AI – The next frontier

Why Voice

- Intuitive – Speaking comes Naturally.
- Build better experiences
- Leverage existing cloud computing

AI – Example Speech Based Flow



AI – Alexa

Live Demo

AI – Speech Components

In the above example we use a combination of cloud based services, namely:

- The Alexa Skill Kit
- AWS Lambda
- Identity and Access Management (IAM) & Key Management Service (KMS)

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Q&A