

The background features a vibrant, multi-colored gradient. It starts with a dark blue on the left, transitions through purple and magenta, and then into bright orange and yellow towards the right. A diagonal line separates the darker blue/purple area from the lighter orange/yellow area.

AWS
re:Invent

MGT310-R

High-velocity service delivery: Infrastructure as code

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Agenda

In this chalk talk, learn how to use AWS native services to increase your organization's ability to deliver applications at high velocity using services like AWS CloudFormation, AWS OpsWorks, and AWS Systems Manager

We'll talk about best practices you can use to provision and manage infrastructure, deploy code, and automate your software release processes

Related breakouts

ARC315-R – Build end-to-end governance with AWS Control Tower

ARC344-R – Understanding the landing zone journey

CMP207 – Manage, control, and optimize costs with native AWS products

MGT313 – Architect Governance at enterprise scale with Goldman Sachs

MGT302-R – Enable AWS adoption at scale with automation and governance

Infrastructure as code

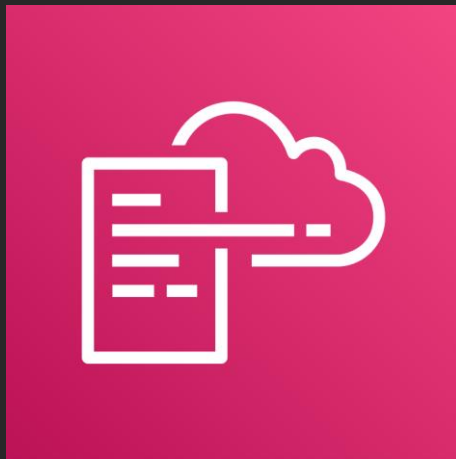
Infrastructure as code

Process of defining infrastructure through machine-readable definition files

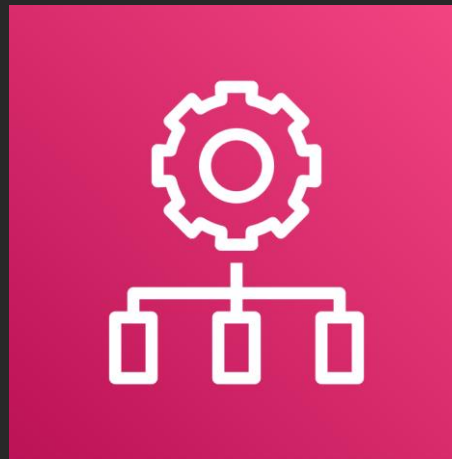
- Reduce risk
- Increase speed
- Lower cost
- Version controlled
- Self-writing documentation

Infrastructure as code at AWS

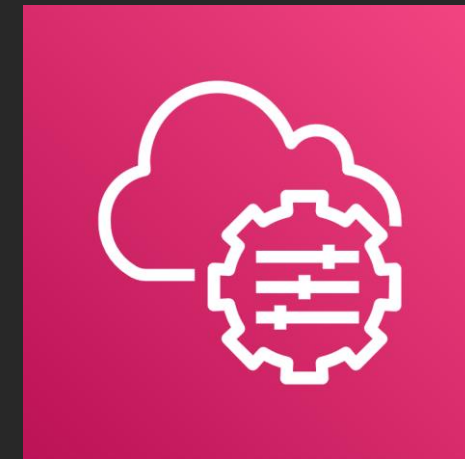
AWS
CloudFormation



OpsWorks



Systems Manager

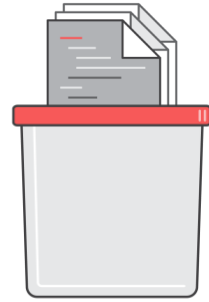


AWS CloudFormation

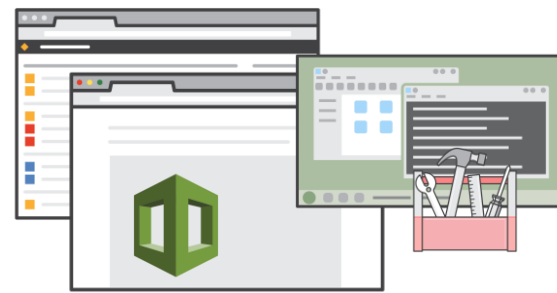
Enables provisioning and management of your infrastructure as code



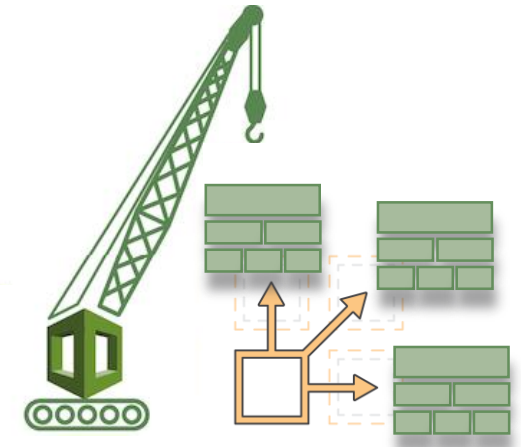
Code in YAML or JSON directly or use sample templates



Upload local files or from an S3 bucket



Create stack using console, API, or CLI



Stacks and resources are provisioned

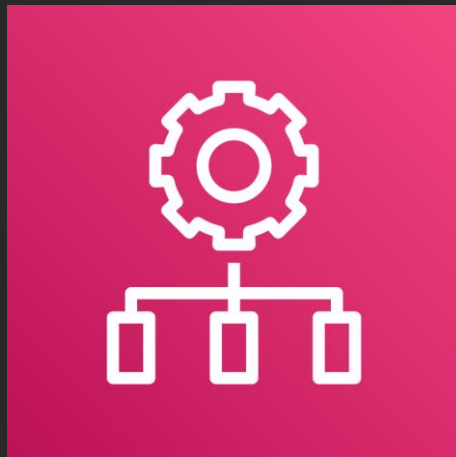
AWS CloudFormation

```
228  ## PIPELINE ##
229
230  # CodeCommit
231  codeCommitRepository:
232  |   Type: AWS::CodeCommit::Repository
233  |   Properties:
234  |     RepositoryDescription: Static website for AlanF
235  |     RepositoryName: alanf-website-prod
236
237  # CodeBuild
238  healthxSiteBuild:
239  |   Type: AWS::CodeBuild::Project
240  |   Properties:
241  |     Artifacts:
242  |       Type: CODEPIPELINE
243  |     Environment:
244  |       Type: LINUX_CONTAINER
245  |       # Removed the small just for testing
246  |       ComputeType: BUILD_GENERAL1_SMALL
247  |       #ComputeType: BUILD_GENERAL1_LARGE
248  |       Image: aws/codebuild/nodejs:10.14.1
249  |       EnvironmentVariables:
250  |         - Name: Name
251  |           Value: alanf-buildnupload-PROD
252  |       Description: Builds and uploads the AlanF website
```

- YAML or JSON
- CDK for use with TypeScript or Python
- Preview changes
- Cross-account/cross-region

OpsWorks

Automate configuration management with Chef or Puppet

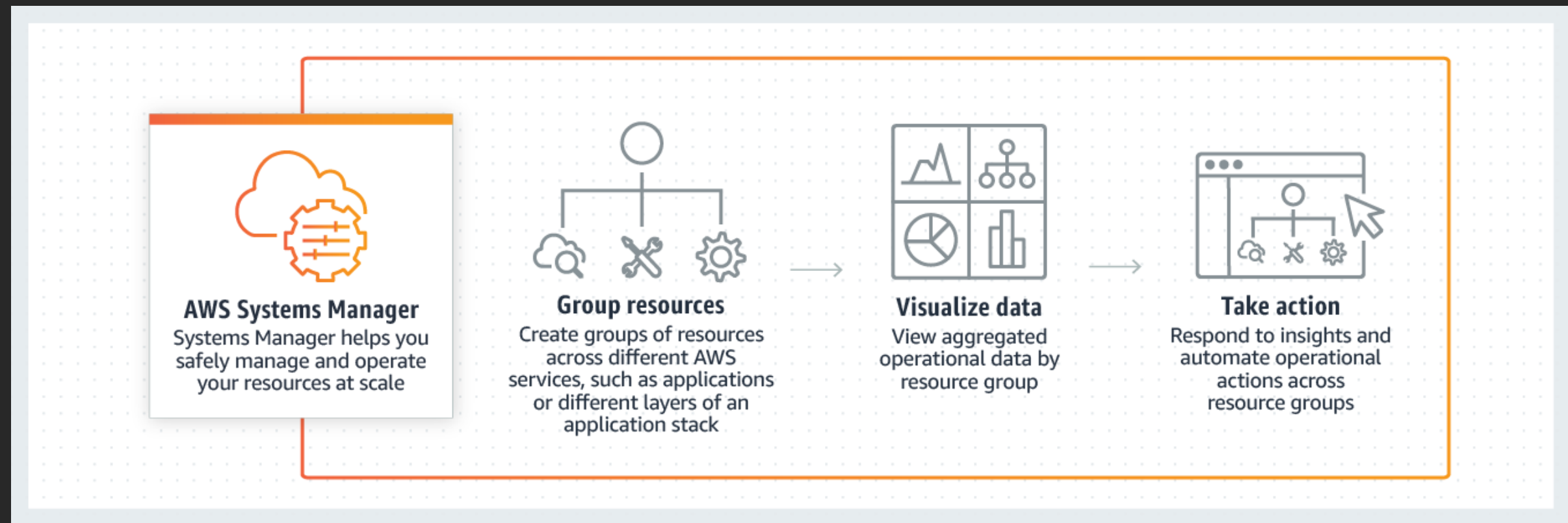


Use either Chef or Puppet to perform configuration management

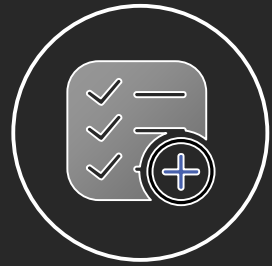
- Support for hybrid environments
- Use a common set of tools
- Great communities
- Integrate with AWS

Systems Manager

Visibility and control of your infrastructure on AWS



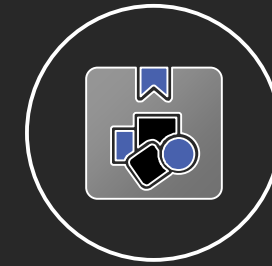
Systems Manager capabilities



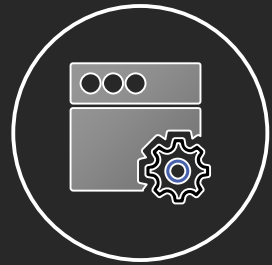
Resource Groups



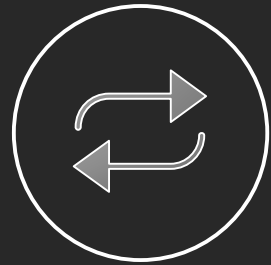
Patch Manager



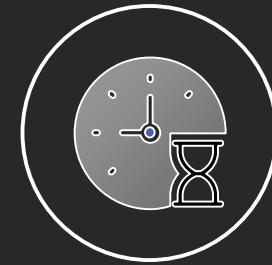
State Manager



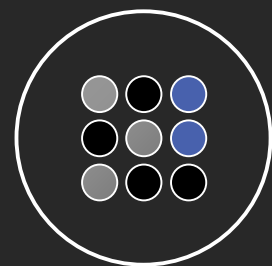
Run Command



Automation



Maintenance Window



Inventory



Parameter Store



Session Manager

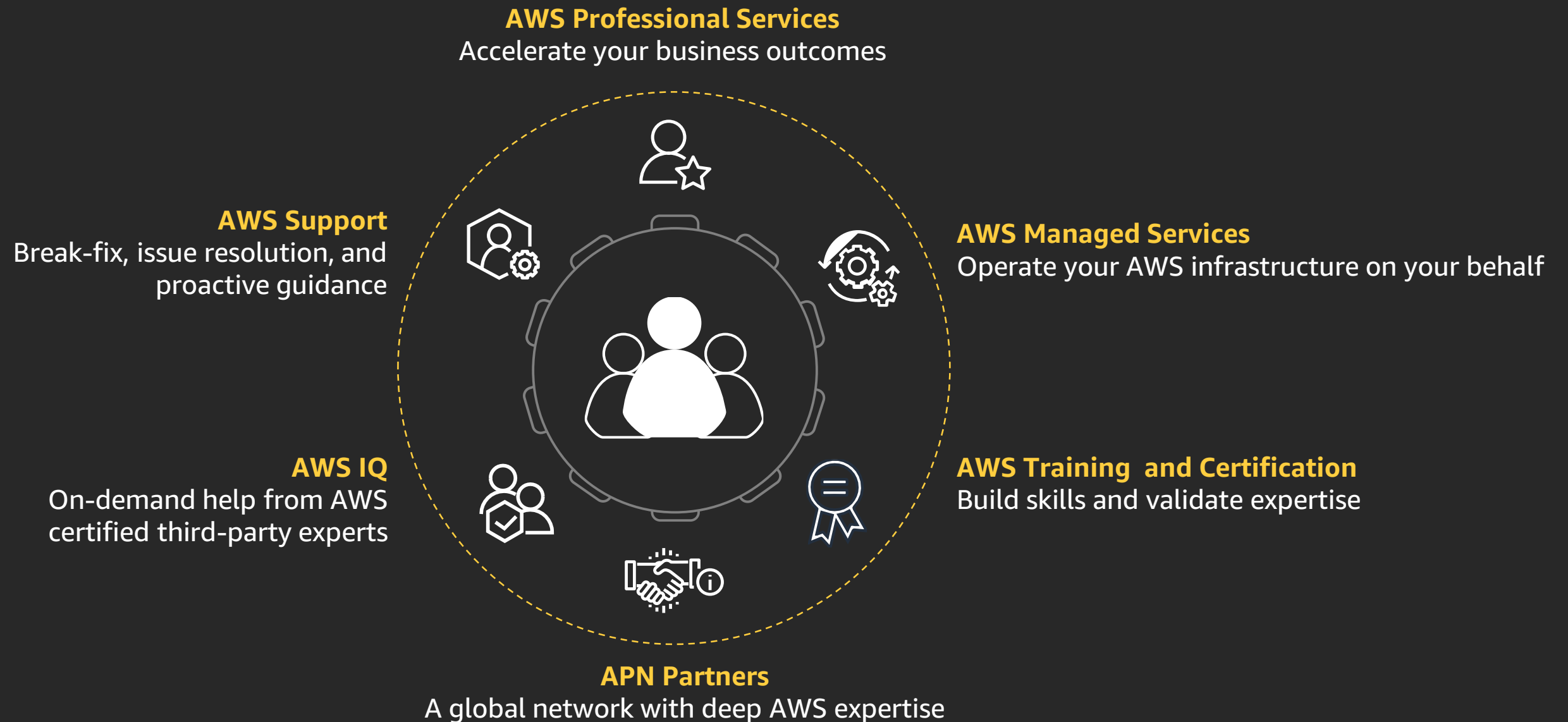


Distributor

Use cases

AWS customer enablement

Migrate and build faster in the cloud



Thank you!



Please complete the session survey in the mobile app.