컨테이너 **/** 쿠버네티스로 보다 쉽고 편리하게 Digital Transformation 하기

정영준

컨테이너 전문 솔루션즈 아키텍트, AWS

주요 내용
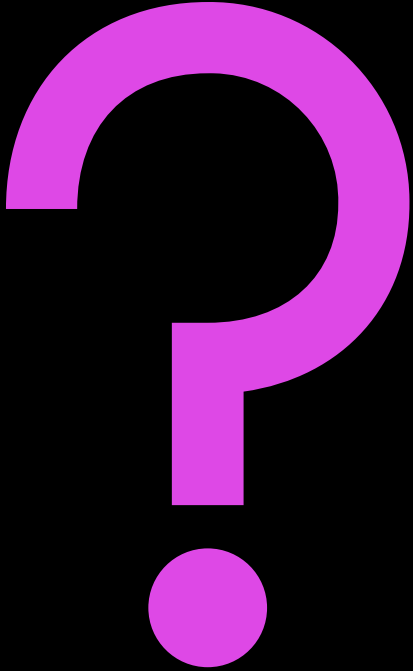
컨테이너 / 쿠버네티스 적용의 장단점

디지털전환을 위한 접근

AWS 컨테이너 서비스 오퍼링

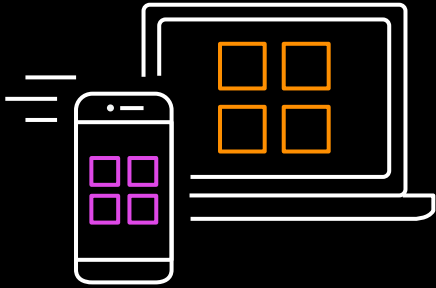최신 컨테이너 서비스 업데이트

2022 컨테이너 서비스 로드맵

aws

컨테이너 **/** 쿠버네티스 적용이 과연 적합할까**?**

?

- 컨테이너 환경이 운영환경에서도 편리한것인가?

- 수많은 도구들 중에 우리 환경에 맞는 도구는 무엇인가?

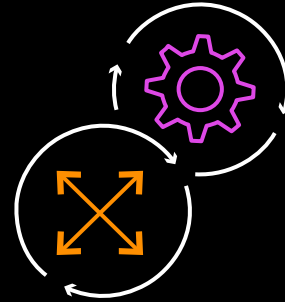- 서비스 / 인프라를 위한 모니터링 방법은?

- 보안과 운영 효율을 위한 관리 체계 구축은?

디지털 전환을 위한 접근

Build applications, not infrastructure

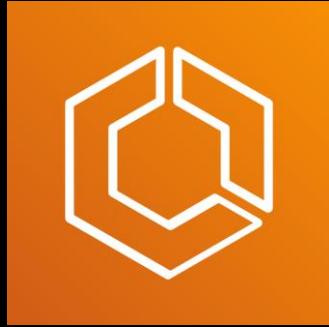Manage infrastructure to their requirements

Scale quickly and seamlessly

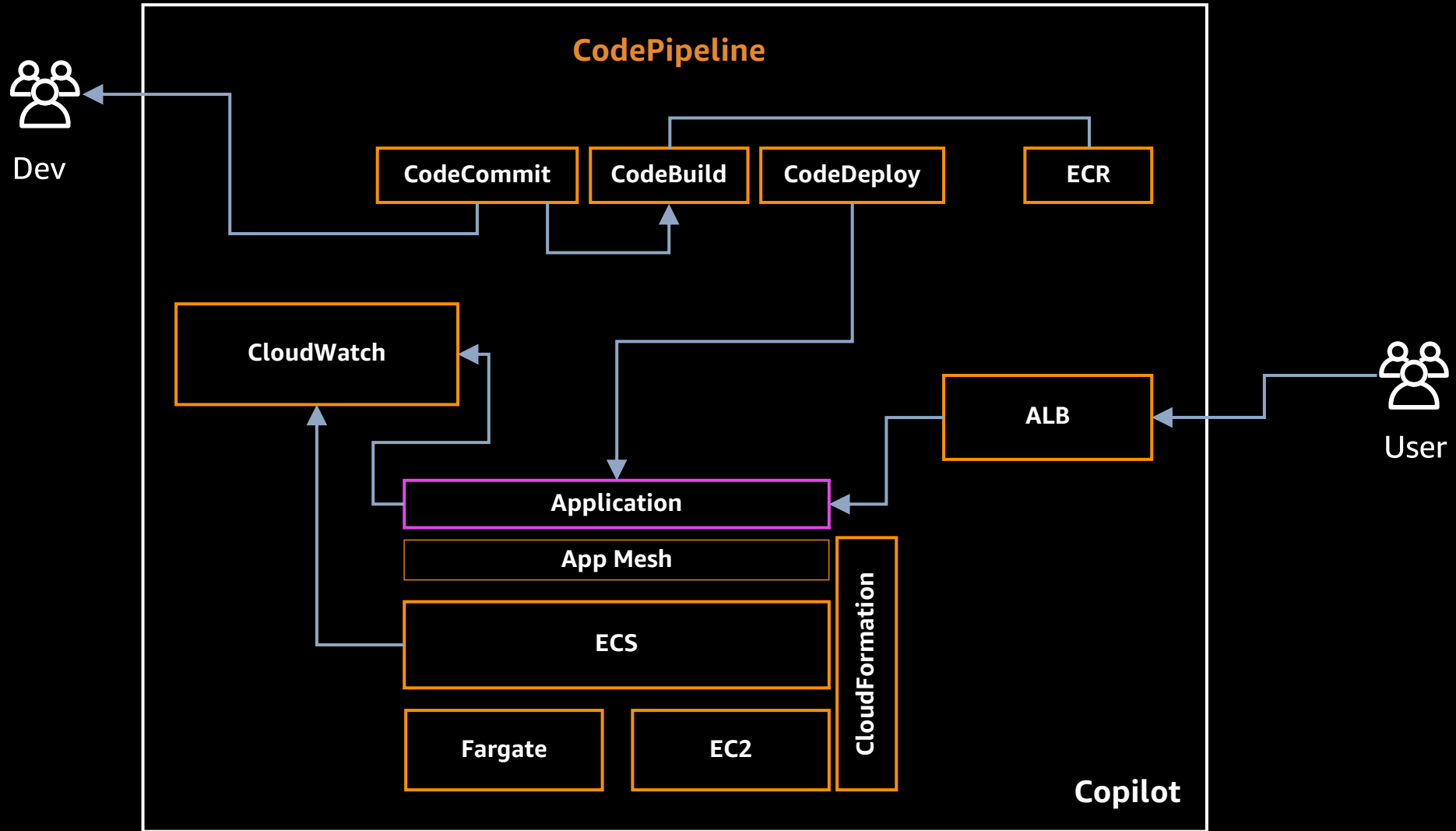Security and isolation by design

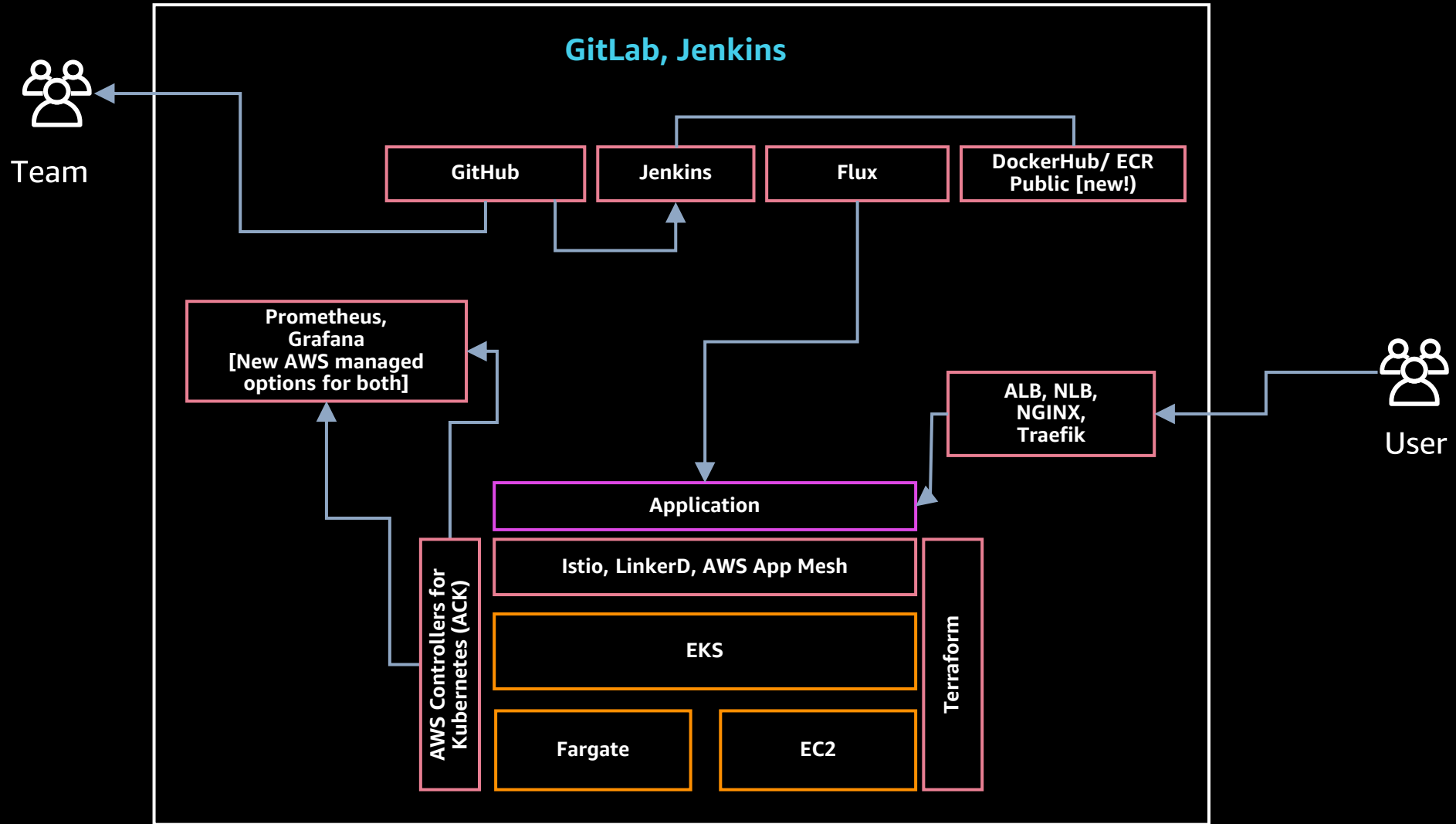# Amazon EKS or Amazon ECS?

ECS

Powerful simplicity

EKS

Open flexibility

Powerful simplicity

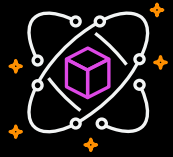# Open flexibility

Management and governance guardrails

Enable

AWS Control Tower

AWS Organizations

AWS Budgets

AWS Well-Architected Tool

Provision

AWS CloudFormation

AWS Service Catalog

AWS Marketplace

Operate

AWS Config

AWS Systems Manager

AWS Cost and Usage Reports

AWS Cost Explorer Service

Observe

AWS CloudTrail

Amazon CloudWatch

AWS X-Ray

AWS Distro for OpenTelemetry [new!]
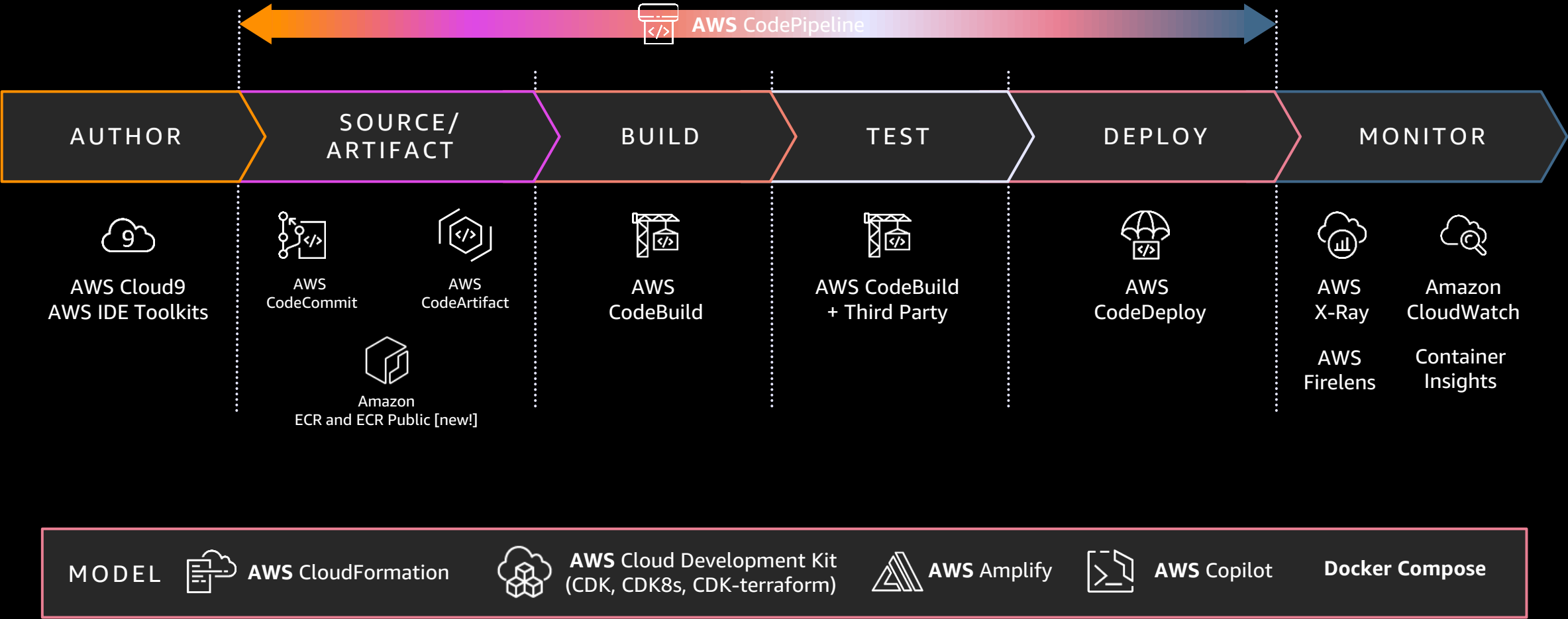
AWS Audit Manager [new!]

Amazon Managed Service for Grafana [new!]
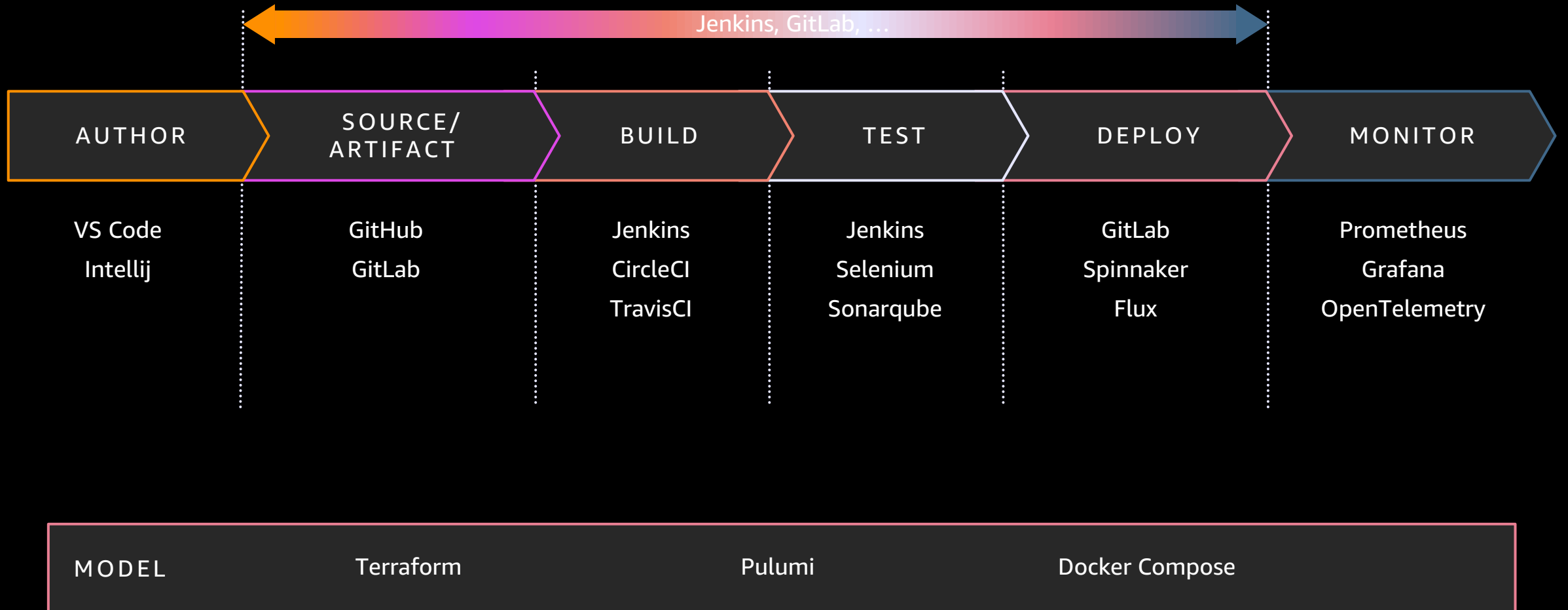
Container Insights

Amazon Managed Service for Prometheus [new!]

Automate deployment with AWS developer tools

Open-source and 3rd party developer tools

Jenkins, GitLab, …

AUTHOR	SOURCE/ ARTIFACT	BUILD	TEST	DEPLOY	MONITOR
VS Code	GitHub	Jenkins	Jenkins	GitLab	Prometheus
Intellij	GitLab	CircleCI	Selenium	Spinnaker	Grafana
		TravisCI	Sonarqube	Flux	OpenTelemetry

MODEL	Terraform	Pulumi	Docker Compose

최신 컨테이너 서비스 업데이트

2021 Key Launches – Security

- KMS envelope encryption for existing clusters
- Native Bottlerocket support with Managed Node Groups
- FedRAMP-High Compliance
- OIDC provider authentication

2021 Key Launches – Usability/Salability

- EKS Add-ons support for CoreDNS and kube-proxy

- Reduced cluster creation time

- CloudFormation integration

- CDK8s GA

- AWS Controllers for Kubernetes (ACK)

- Project Karpenter

- Higher density pods per node

2021 Key Launches – Ubiquity

- EKS Anywhere

- EKS Connector

2022 Key upcoming feature - EKS

- IAM access management APIs (https://github.com/aws/containers-roadmap/issues/185)

- One-click cluster upgrades

- Control Plane log to S3

- Support for Mega Cluster(15K nodes and 450K pods) – private beta

- EKS IPv6 Support

- Native VPC CNI(Network Policy support)

- AWS Load Balancer controller add to EKS add-on

- Supoort for K8s Gateway API in the AWS LB Controller

2022 Key upcoming feature - EKS

- Managed Nodes "2.0"

- MNG Health Monitoring and Auto-repair

- MNG Upgrade Improvements

- MNG on Outposts

- Improved cost visibility for nodes in EKS clusters

- Larger EKS/Fargate Task Sizes

- Faster EKS/Fargate Task Startup

- EKS/Fargate HIPAA & PCI Compliance Certification

2022 Key upcoming feature - EKS

- EKS/Fargate in China

- EKS/Fargate Profile Wildcards

2022 Key upcoming feature – addon

- Managed add-on configuration

- Support for OpenTelemetry Operator

- Support for other key community and AWS Kubernetes software

- Native Flux support

- Maketplace integration

- Full Resource View

- Performance Monitoring

aws

2022 Key upcoming feature – Hybrid

- EKS-A Bare metal support

- EKS-A Apache CloudStack Support

- EKS on Outposts

- EKS-A Snowball Support

AWS Kubernetes product portfolio

AWS managed

Amazon **EKS** in AWS — Best, scale, performance, & cost

Amazon **EKS + AWS Local Zones** — Fully managed, latency optimized

Amazon **EKS + AWS Outposts** — Fully managed experience where you need it

Amazon **EKS Anywhere** — Your hardware, EKS consistent tooling

Amazon **EKS Distro** — Your hardware, your management tools

Customer managed

re:Invent Launches
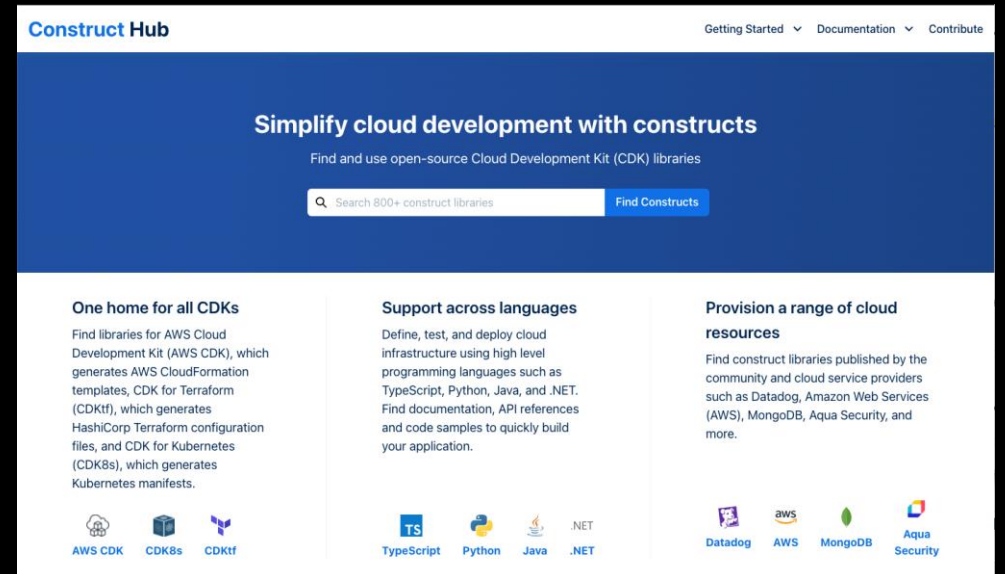
Karpenter – How it works
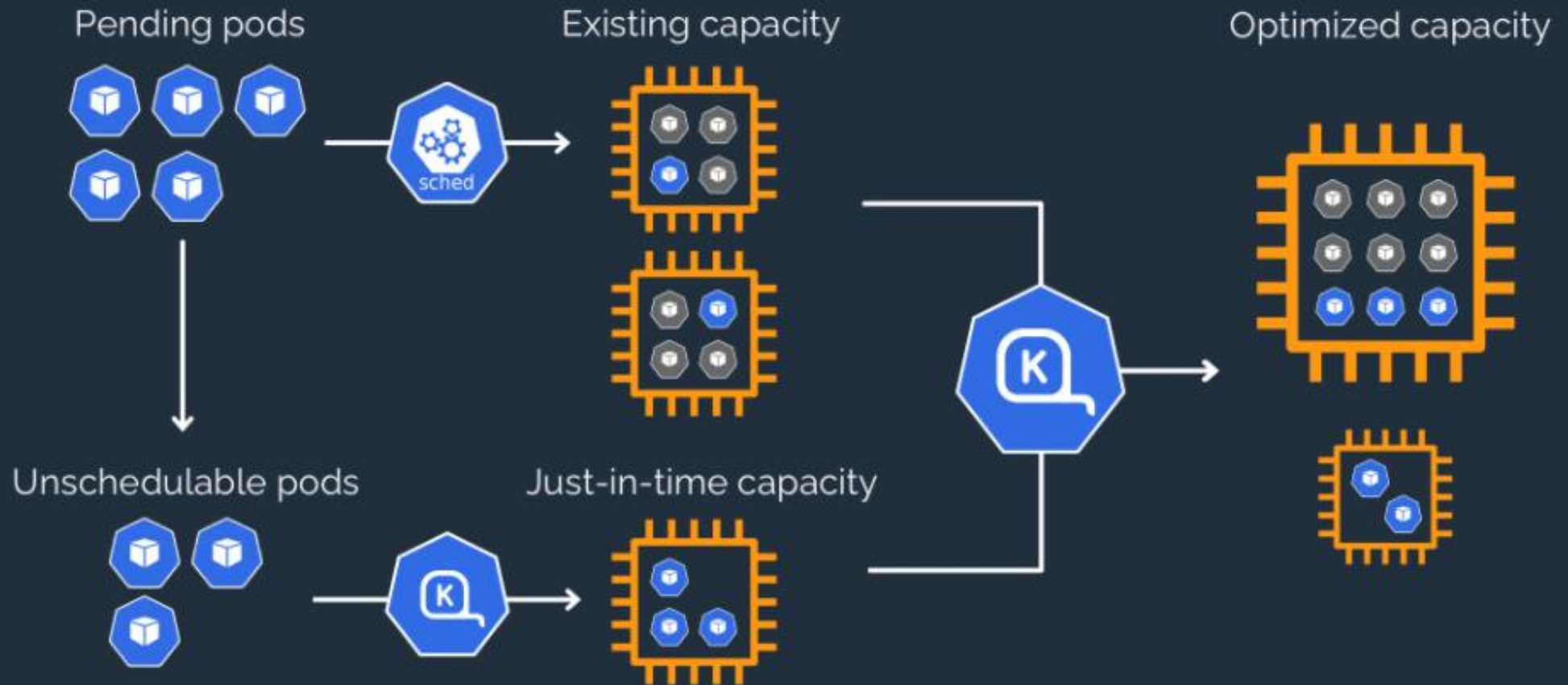
Key FAQs for Karpenter

- Why did you build Karpenter? Isn't Cluster Autoscaler good enough?

- Is Karpenter just for AWS?

- Do I have to manage Karpenter myself? Will it be an EKS add-on?

Construct Hub (https://constructs.dev/)

Construct Hub

Search by use case

Find the right construct for your problem set from a community that's already tackled it.

Monitoring Containers Serverless Databases Utilities Deployment Websites Security Compliance Network

Artificial Intelligence (AI) Cloud Services Integrations

Search by publisher

Find constructs published by the open-source community, AWS, and cloud technology providers in one location. You can also include your own construct libraries on Construct Hub by publishing them on npm registry. More concrete guidance can be found in the Contribute page.

Community   AWS   HashiCorp

CDKtf v0 **cdktf**

Cloud Development Kit for Terraform

Community
43,477 weekly downloads
2 days ago
By HashiCorp

TS 🐍 ☕ .NET

---

projen

CDK for software projects

Community
27,048 weekly downloads
3 hours ago
By Elad Ben-Israel

Jest Testing cicd generator

management project scaffolding

TS 🐍 ☕

AWS CDK v1 **cdk-iam-floyd**

AWS IAM policy statement generator with fluent interface for AWS CDK

AWS IAM Security iam policy

iam-floyd

Community
7,313 weekly downloads
4 days ago
By Daniel Schroeder

TS 🐍

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cdk-constants

Library of helpful constants to work with the CDK

Community
4,885 weekly downloads
2 years ago
By Kevin S Lin

TS 🐍 ☕

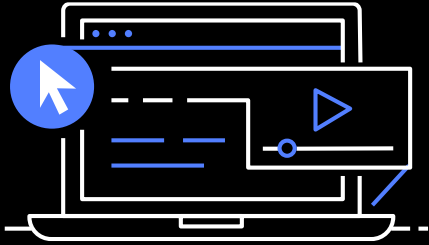See all community constructs

Construct Hub

"Amazon EKS on AWS is a greate way to leverage the best of AWS and Kubernetes Open Source"

Anubhav Dhoot

VP of Engineering, Salesforce

AWS 디지털 교육

추천 과정 (한글 자막)

- AWS Cloud Practitioner Essentials
  AWS 클라우드 기초에 대해 학습하고, 기초 자격증인 AWS Certified Cloud Practitioner 시험을 준비할 수 있습니다.

- Amazon DynamoDB for Serverless Architectures
  Amazon DynamoDB의 전반적인 소개와 Amazon DynamoDB가 서버리스 아키텍처 구축에 어떻게 활용되는지 알아봅니다.

- AWS Security Fundamentals
  AWS 액세스 제어 및 관리, 거버넌스, 로깅, 그리고 암호화 방법을 포함한 기본적인 클라우드 컴퓨팅 및 AWS 보안 개념에 대해 알아봅니다.

- AWS Database Offerings
  다양한 데이터베이스 기술 및 아키텍처에 대한 기본 개요와 AWS 데이터베이스 서비스를 소개합니다.

Flexibility to learn
your way

550개 이상의
무료 디지털 교육 및
심층적 강의실 교육을 통해
클라우드 기술 역량을
업그레이드 하세요!

aws

aws.amazon.com/training

AWS Builders Online Series에 참석해주셔서 대단히 감사합니다.

저희가 준비한 내용, 어떻게 보셨나요?
더 나은 세미나를 위하여 **설문을 꼭 작성해 주시기 바랍니다**.

aws-korea-marketing@amazon.com

twitter.com/AWSKorea

facebook.com/amazonwebservices.ko

youtube.com/user/AWSKorea

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Thank you!

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