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PaaS 지원분과위원회
KACI 한국클라우드산업협회 Korea Association of Cloud Industry
과학기술정보통신부
IT 혁신에서
클라우드 네이티브의 역할
AcornSoft | 우 광 택
K-PaaS Summit 2023

Q. What is Cloud Native?

Cloud Native, 읽어 봐도 모르겠다.

Cloud Native Definition

CLOUD NATIVE COMPUTING FOUNDATION

Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.

출처 : Cloud Native Computing Foundation (https://www.cncf.io/about/who-we-are/)

Cloud Native, 읽어 봐도 모르겠다.

NIA 한국지능정보사회진흥원 NATIONAL INFORMATION SOCIETY AGENCY

1.1 클라우드 네이티브 정의

- 클라우드 네이티브(Cloud Native)는 "클라우드의 장점을 최대한 활용하여 정보시스템을 구축 및 실행하는 환경"을 말한다
- 클라우드 네이티브는 기술, 애플리케이션, 아키텍처, 개발방법론, 조직, 프로세스 등 다양한 용어와 결합하여 다양한 의미로 사용되고 있다.

출처 : 클라우드 네이티브 정보 시스템 구축을 위한 발주자 안내서 (NIA)

Cloud Native, 읽어 봐도 모르겠다.

What is Cloud Native?

aws

Cloud native is the software approach of building, deploying, and managing modern applications in cloud computing environments. Modern companies want to build highly scalable, flexible, and resilient applications that they can update quickly to meet customer demands. To do so, they use modern tools and techniques that inherently support application development on cloud infrastructure. These cloud-native technologies support fast and frequent changes to applications without impacting service delivery, providing adopters with an innovative, competitive advantage.

출처 : AWS (https://aws.amazon.com/what-is/cloud-native/)

새로운 BIZ 요구 사항 = IT의 과제

온라인

모바일

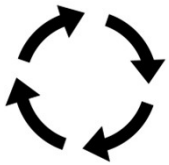
글로벌

새로운 BIZ 요구 사항 = IT의 과제

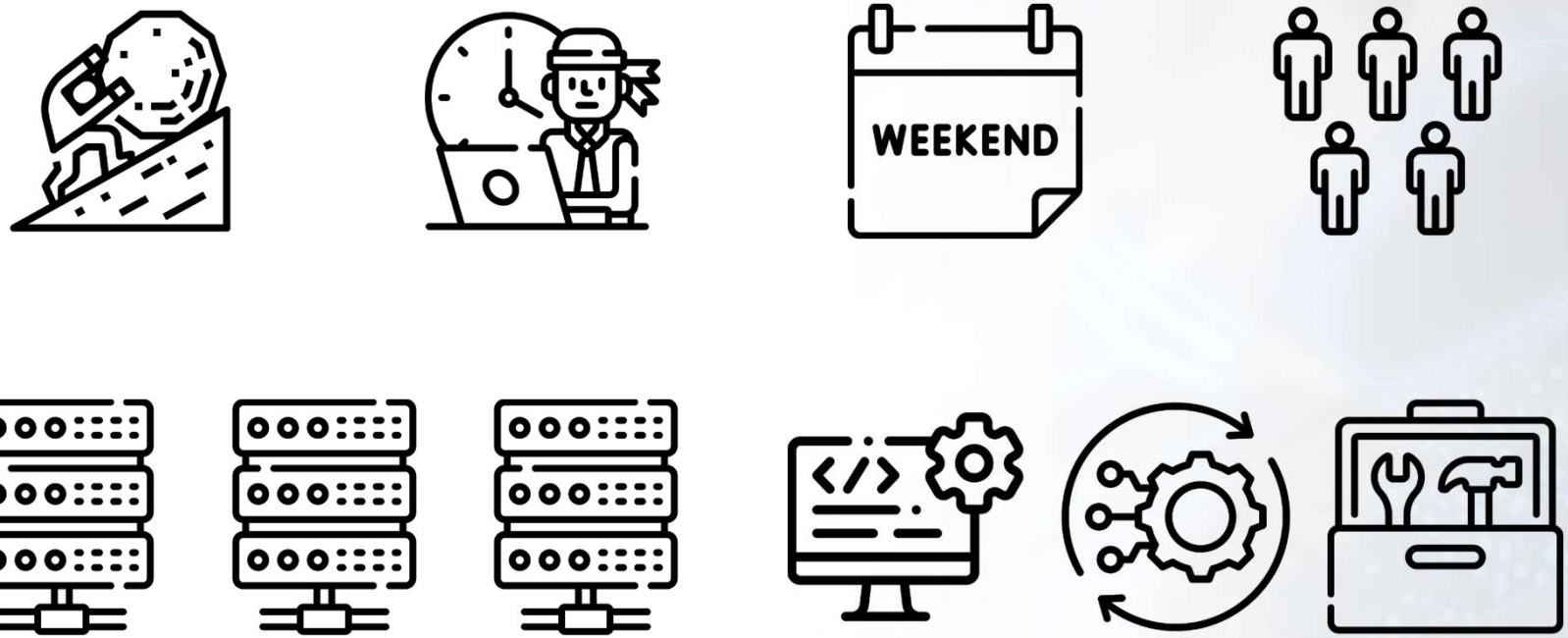
온라인

모바일

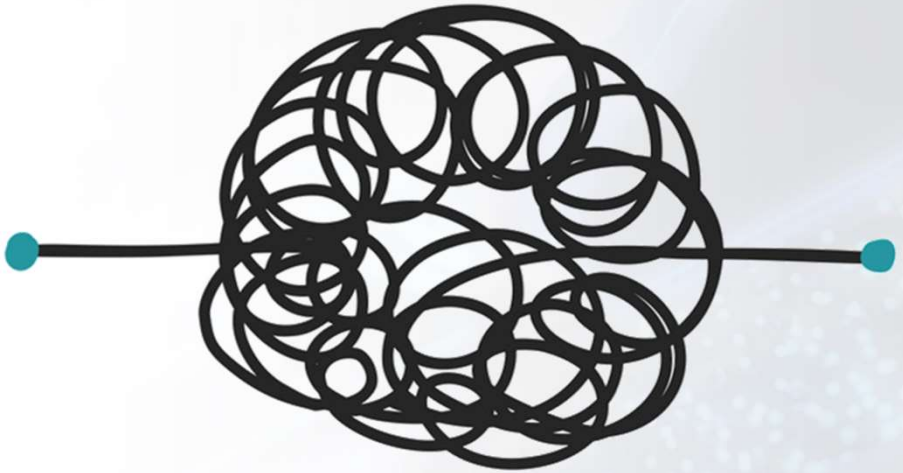
글로벌



투입을 늘려라

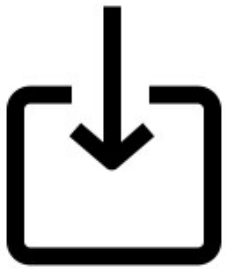


투입 증가의 한계



혁신의 등장

무엇을 바꿀 것인가?


HW Delivery/Deploy

SW Delivery/Deploy

+

Scale

Update

Backup/Restore

무엇을 바꿀 것인가?

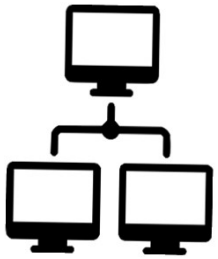
인프라 운영 / 관리

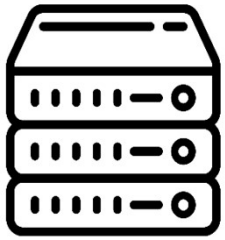
SW 어플리케이션
배포 / 운영

SW 어플리케이션
구조

Cloud + Cloud Native

Before Cloud (B.C.)

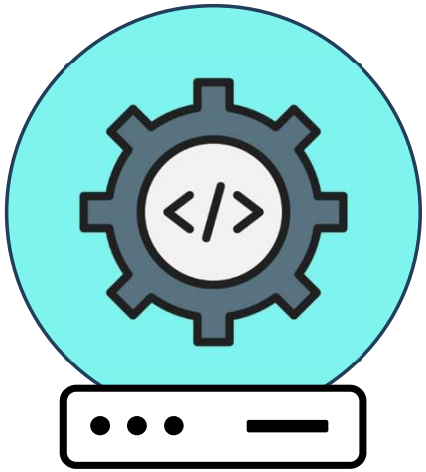

Network


Server

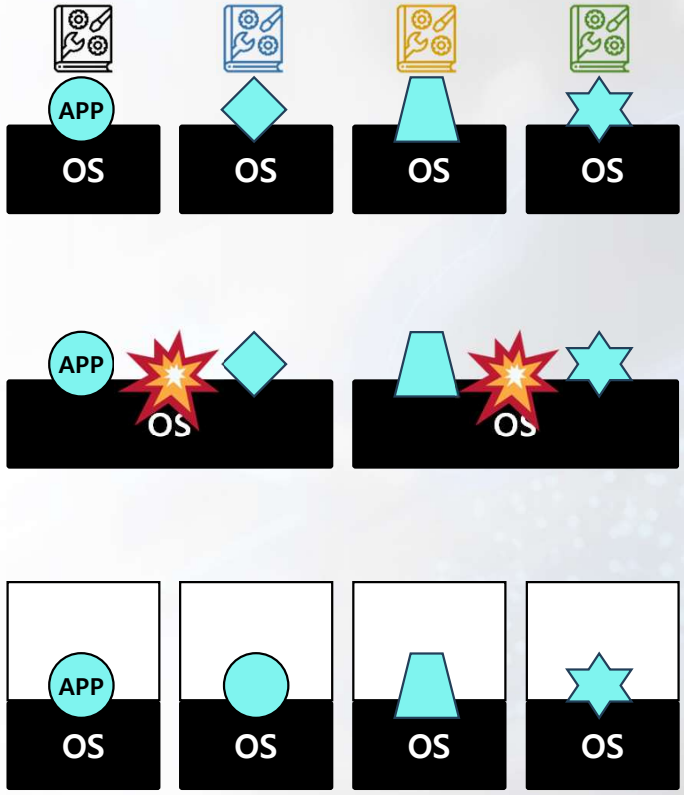

Storage

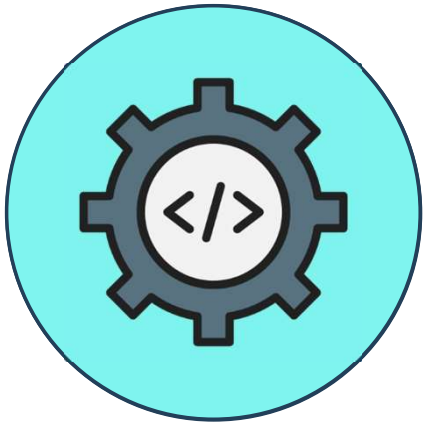
Infra : Physical

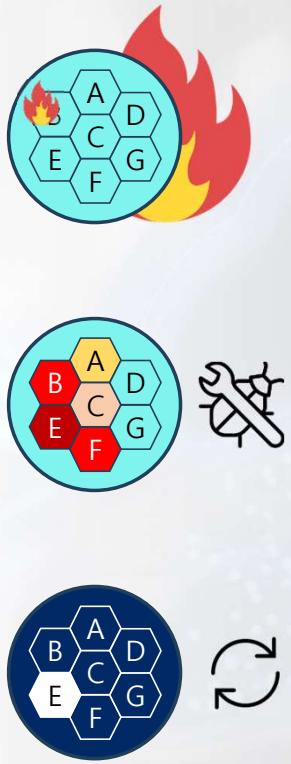
Before Cloud (B.C.)



App Deploy

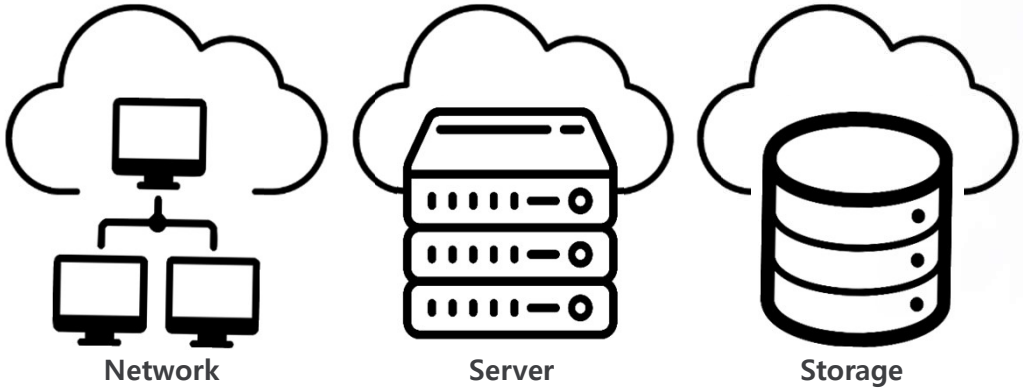






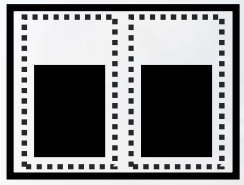
App Architecture

Cloud의 등장과 변화

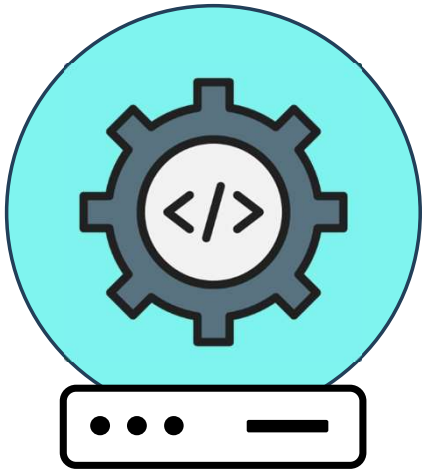


H/W ➡ S/W

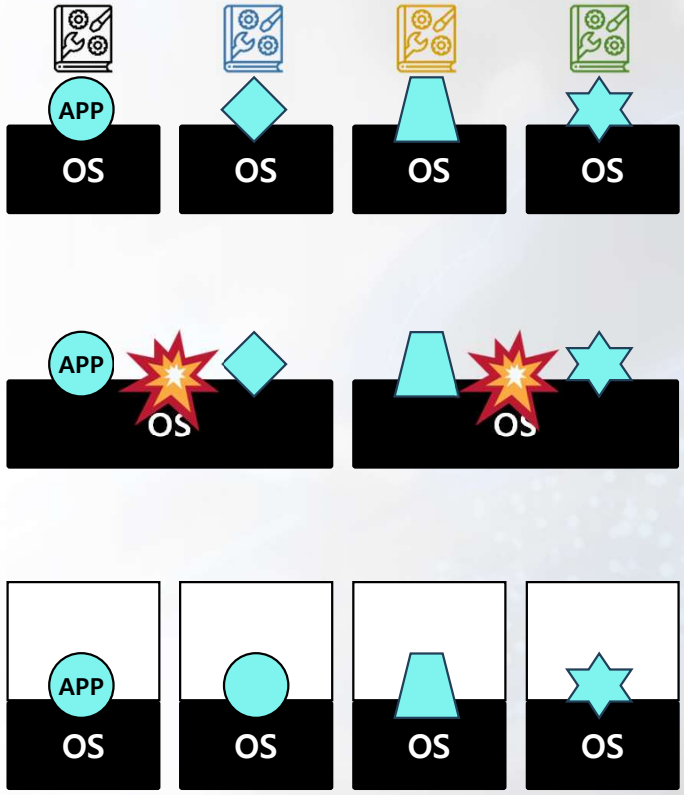
Infra : Virtual



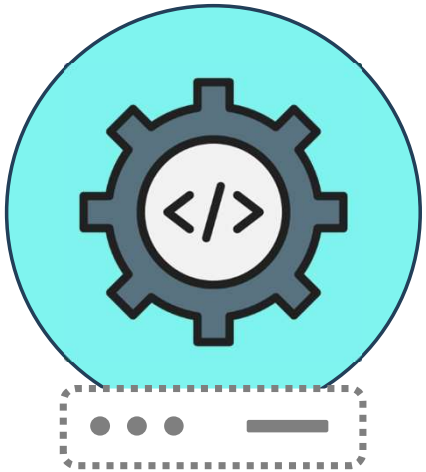
Cloud의 등장과 변화



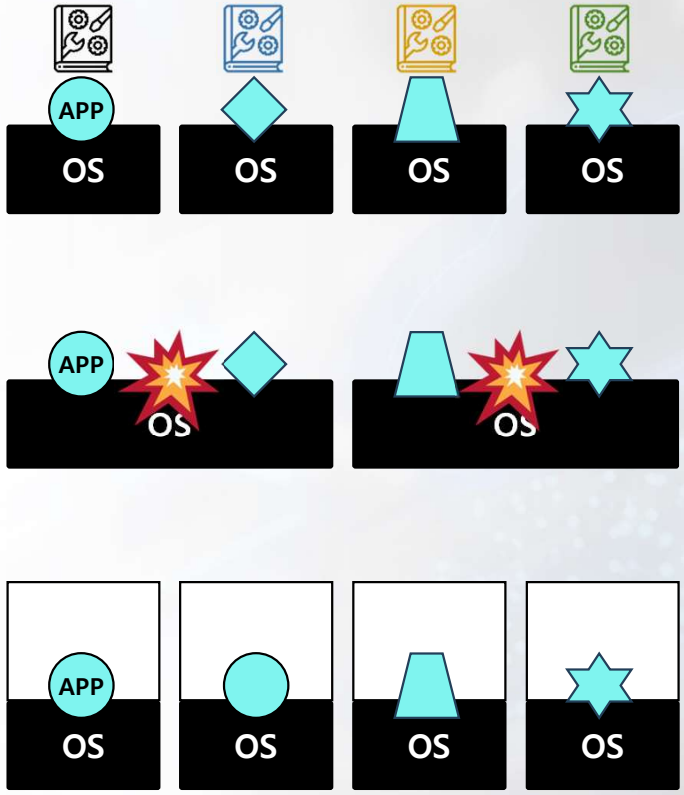
App Deploy



Cloud의 등장과 변화



App Deploy



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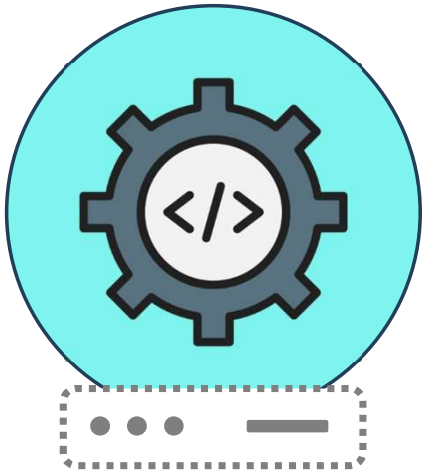
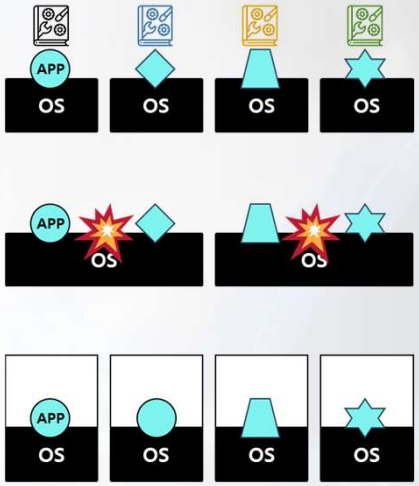
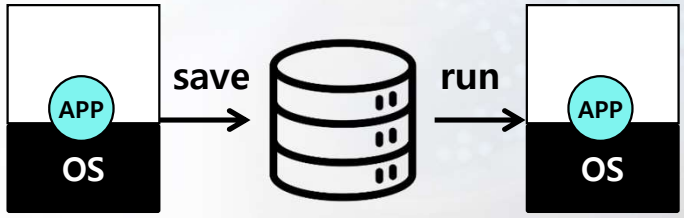
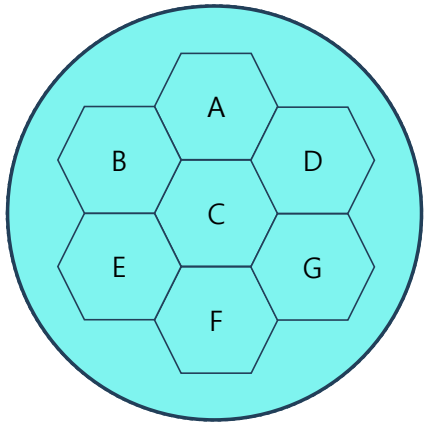


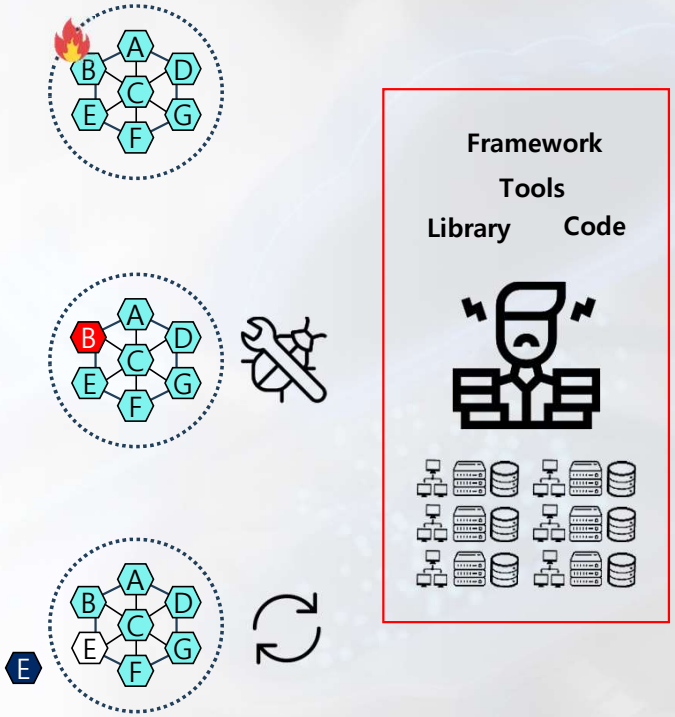
App Deploy



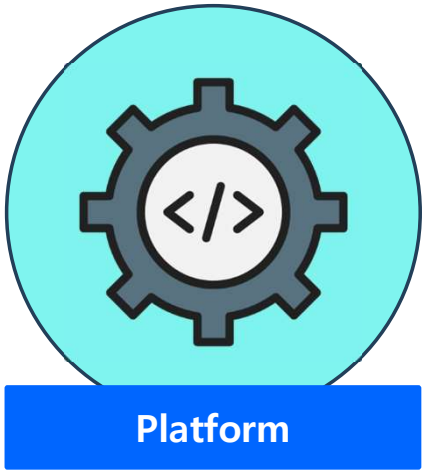




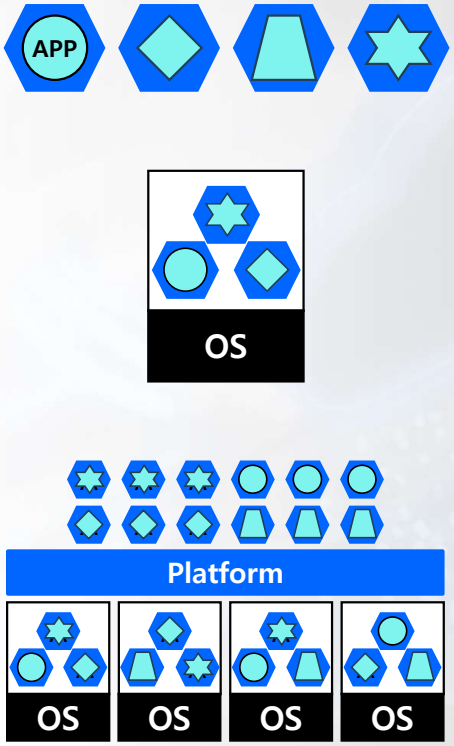
App Architecture



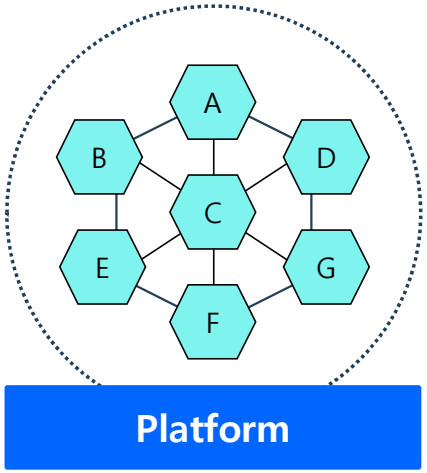
Cloud Native의 등장과 변화

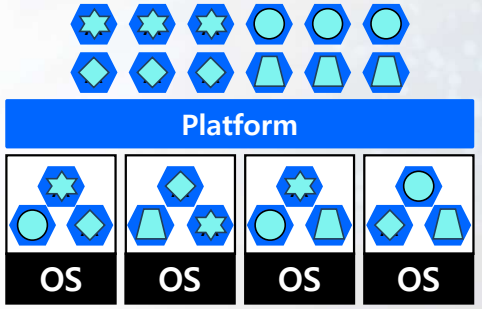


App Deploy



Cloud Native의 등장과 변화



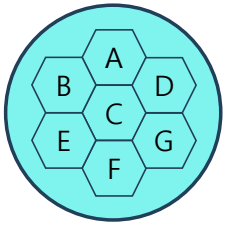


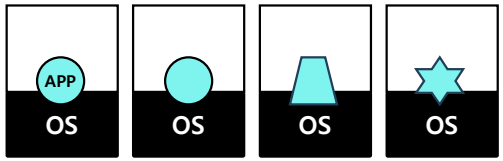
App Architecture

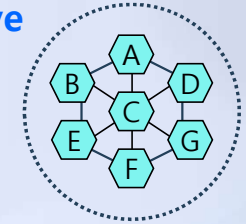
Cloud, Cloud Native가 가져온 변화

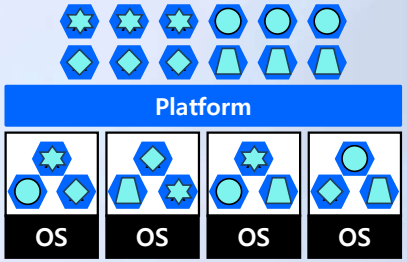
IT 계층별 역할

		Cloud Native	Cloud
App. Architecture	Monolithic	MSA	
App. Deploy/Manage	Server	Container Cluster	
Infra Management	On-Premise Physical		Cloud Virtual

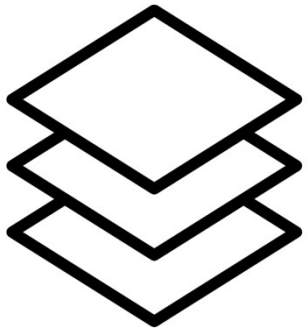




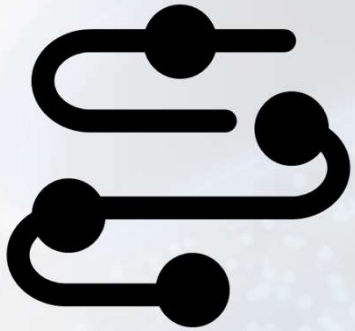




다른 관점에서 바라보기



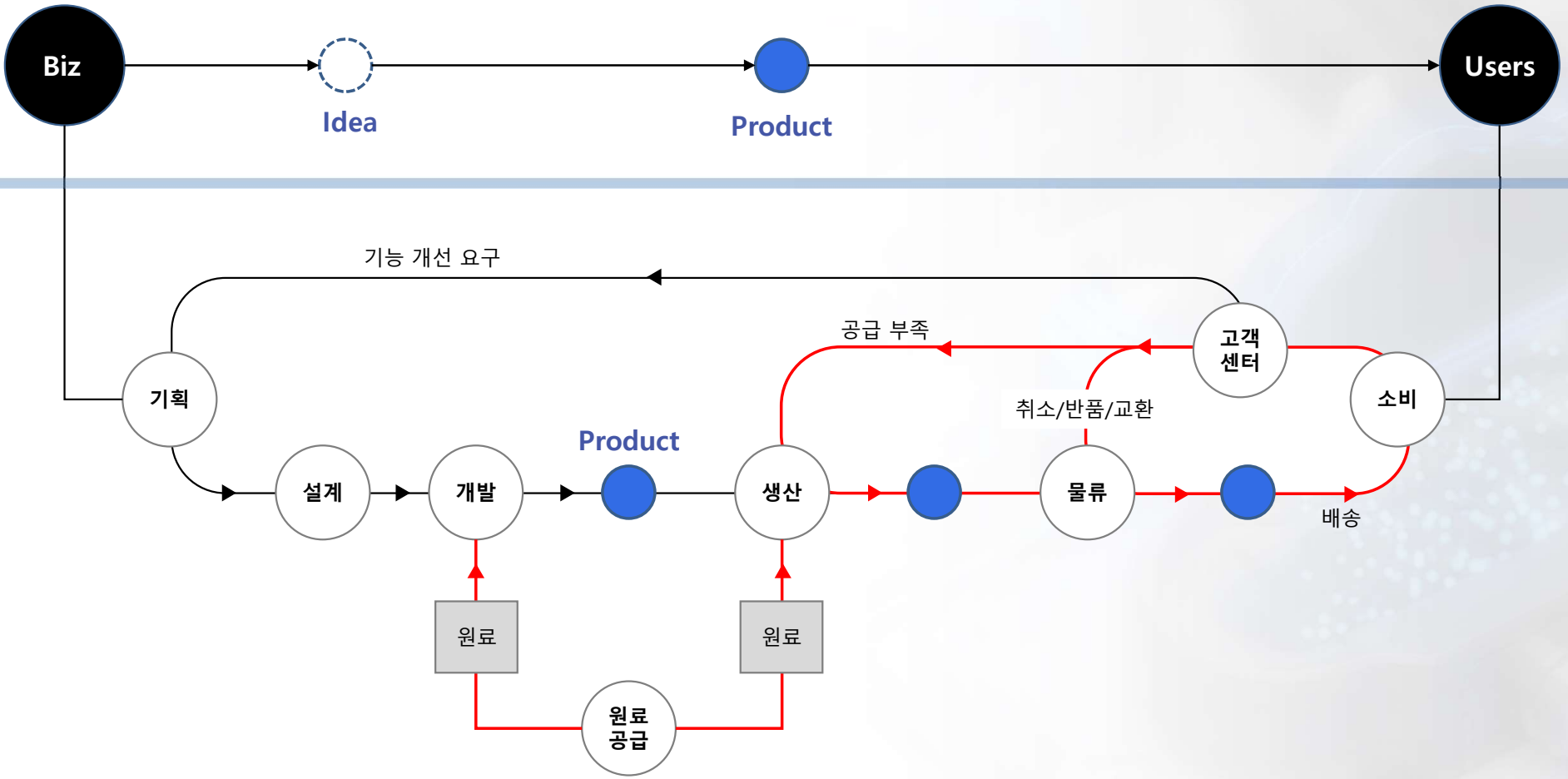
Layers



Flow

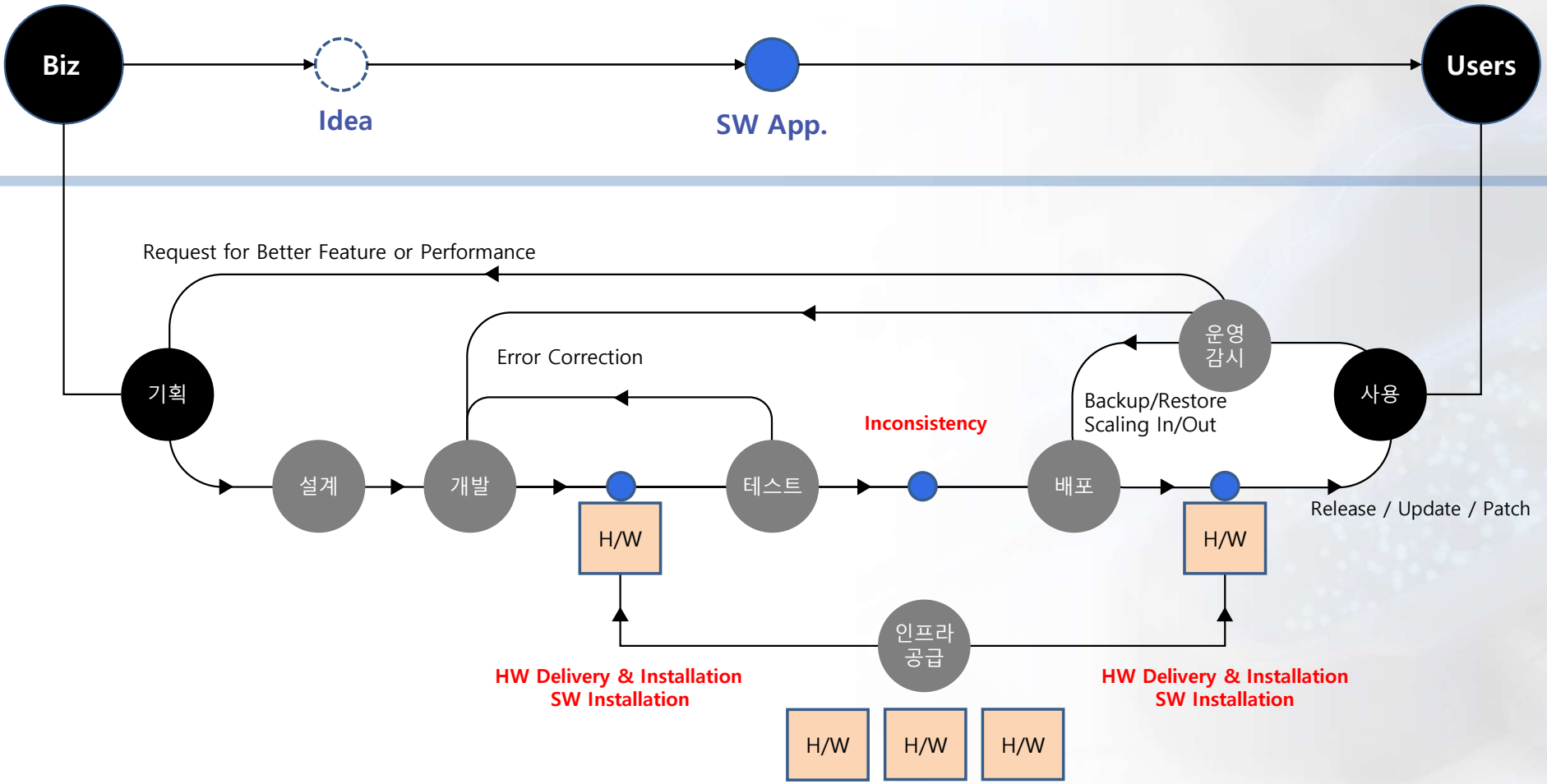
일반적인 Supply Chain

SW Supply Chain에서의 역할

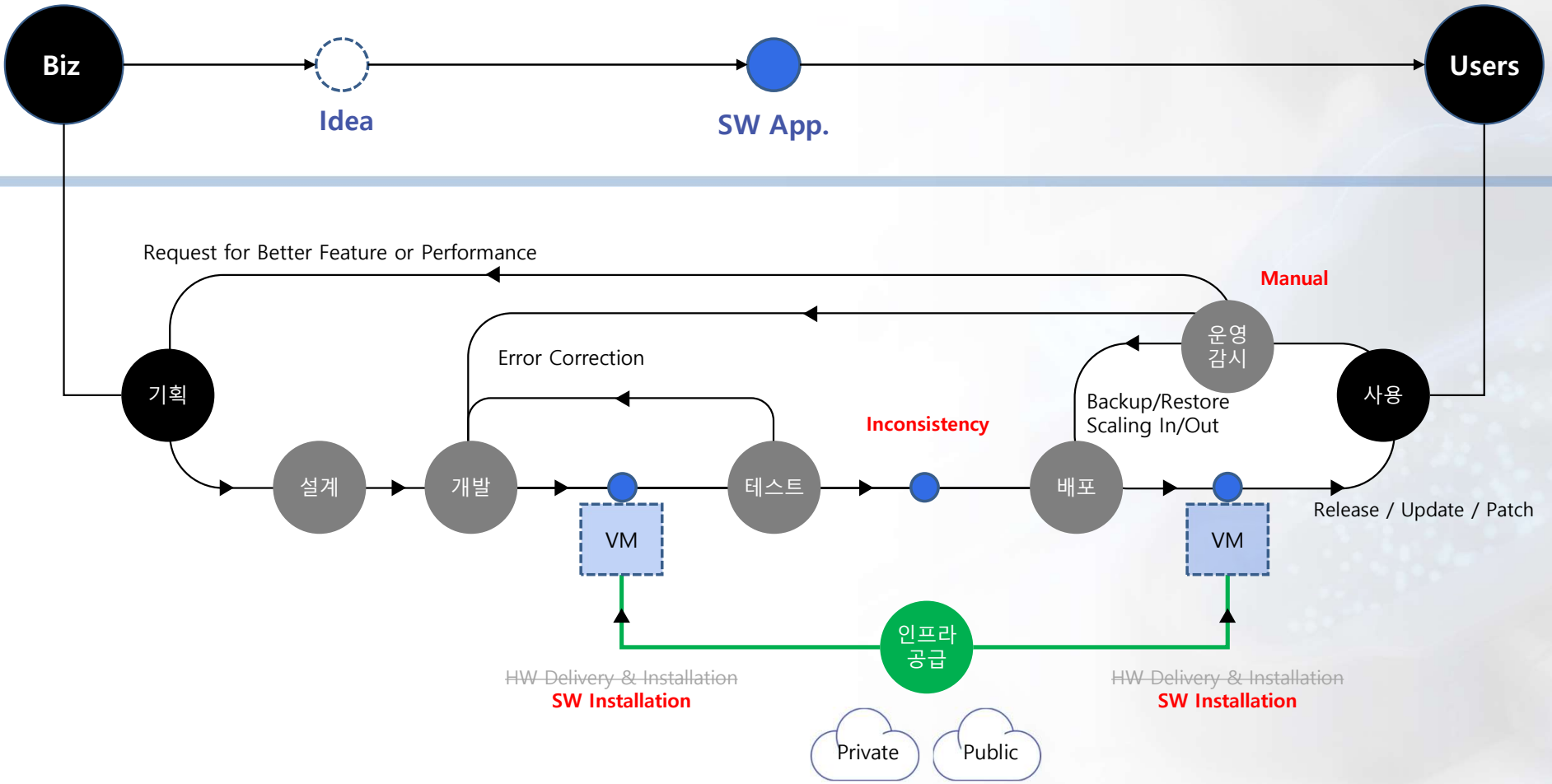


Before Cloud

SW Supply Chain에서의 역할



SW Supply Chain에서의 역할



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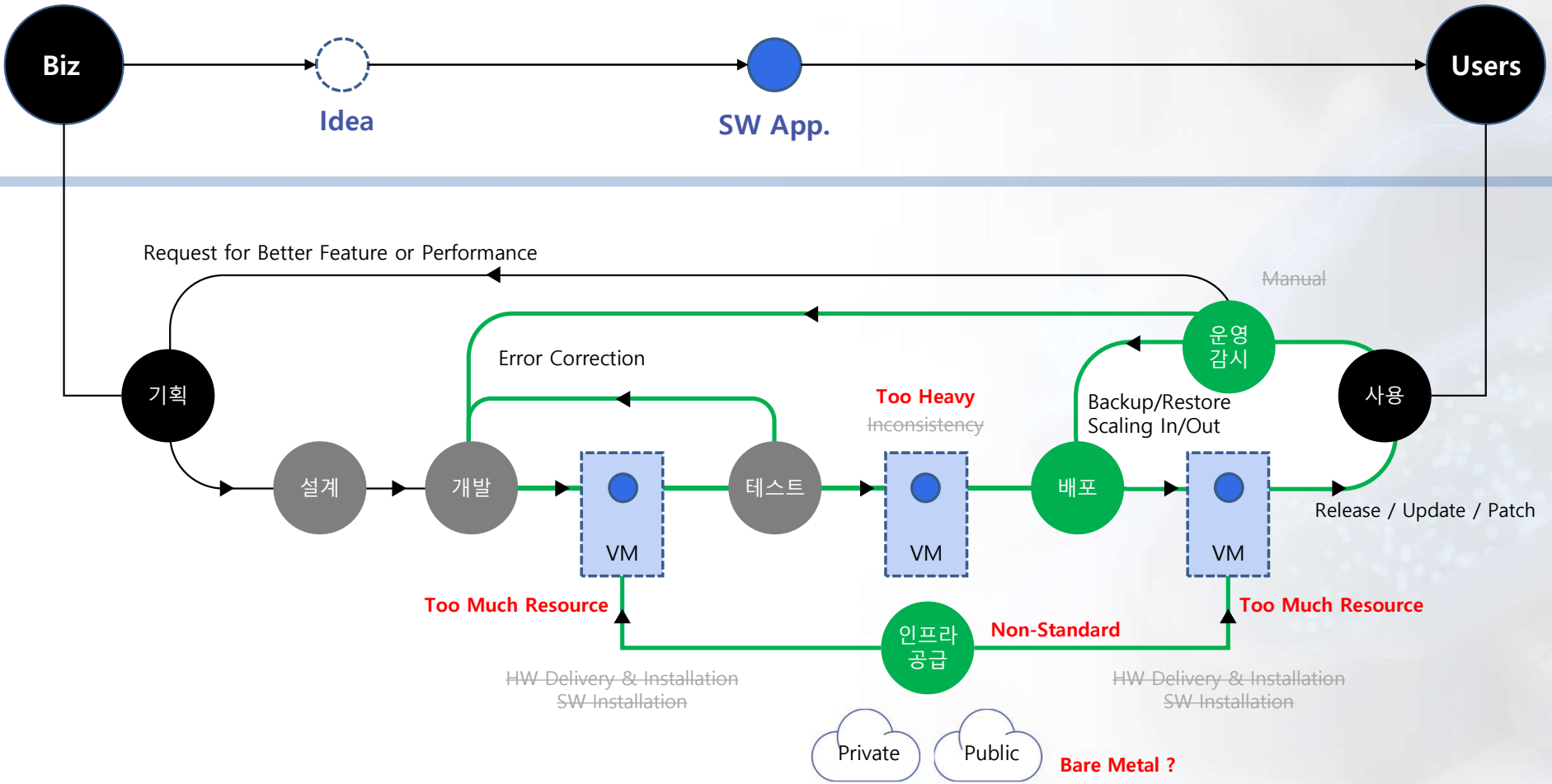
PaaS 지원분과위원회 KACI 한국클라우드산업협회 Korea Association of Cloud Industry 과학기술정보통신부

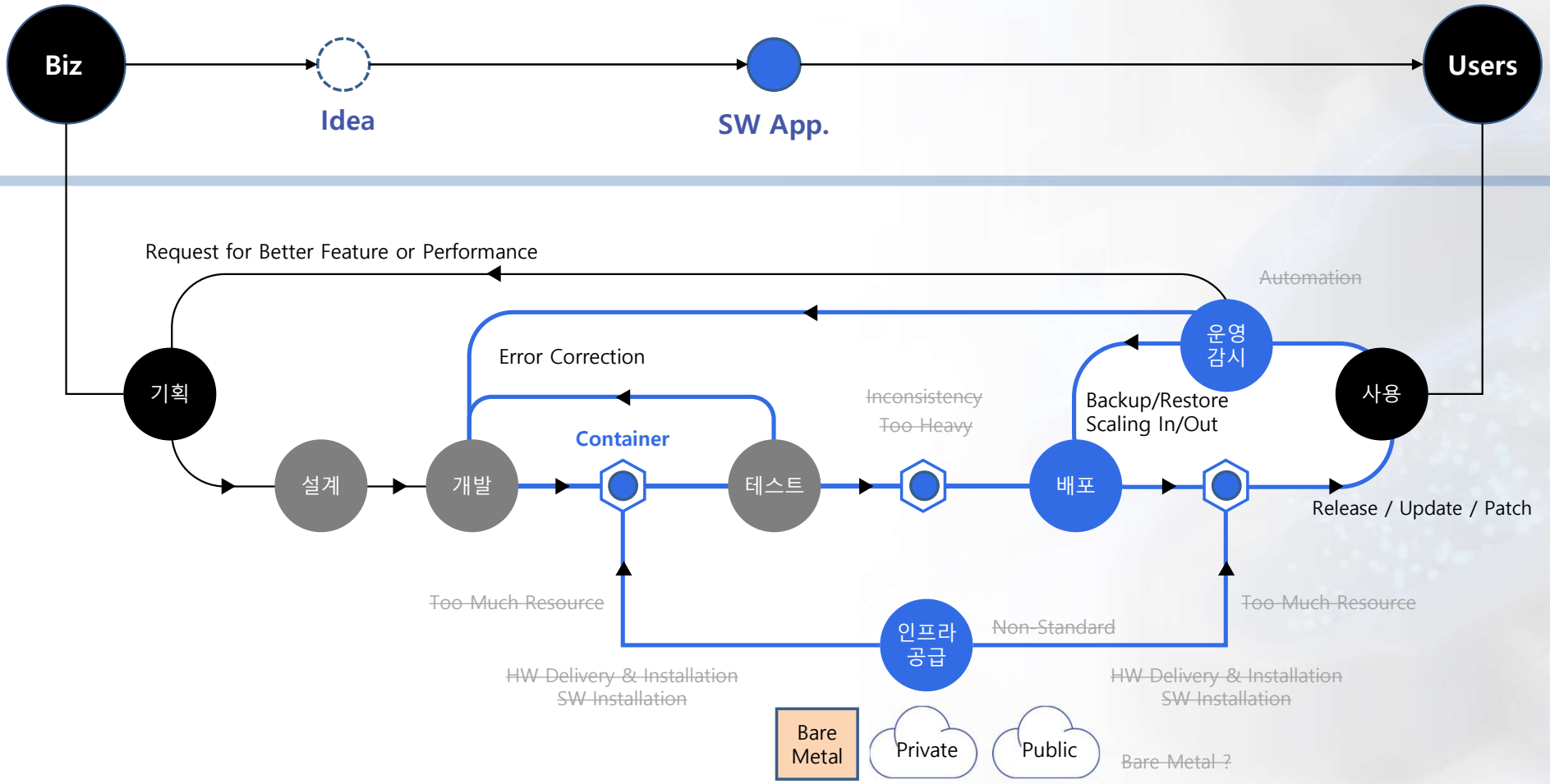
Cloud + DevOps

SW Supply Chain에서의 역할



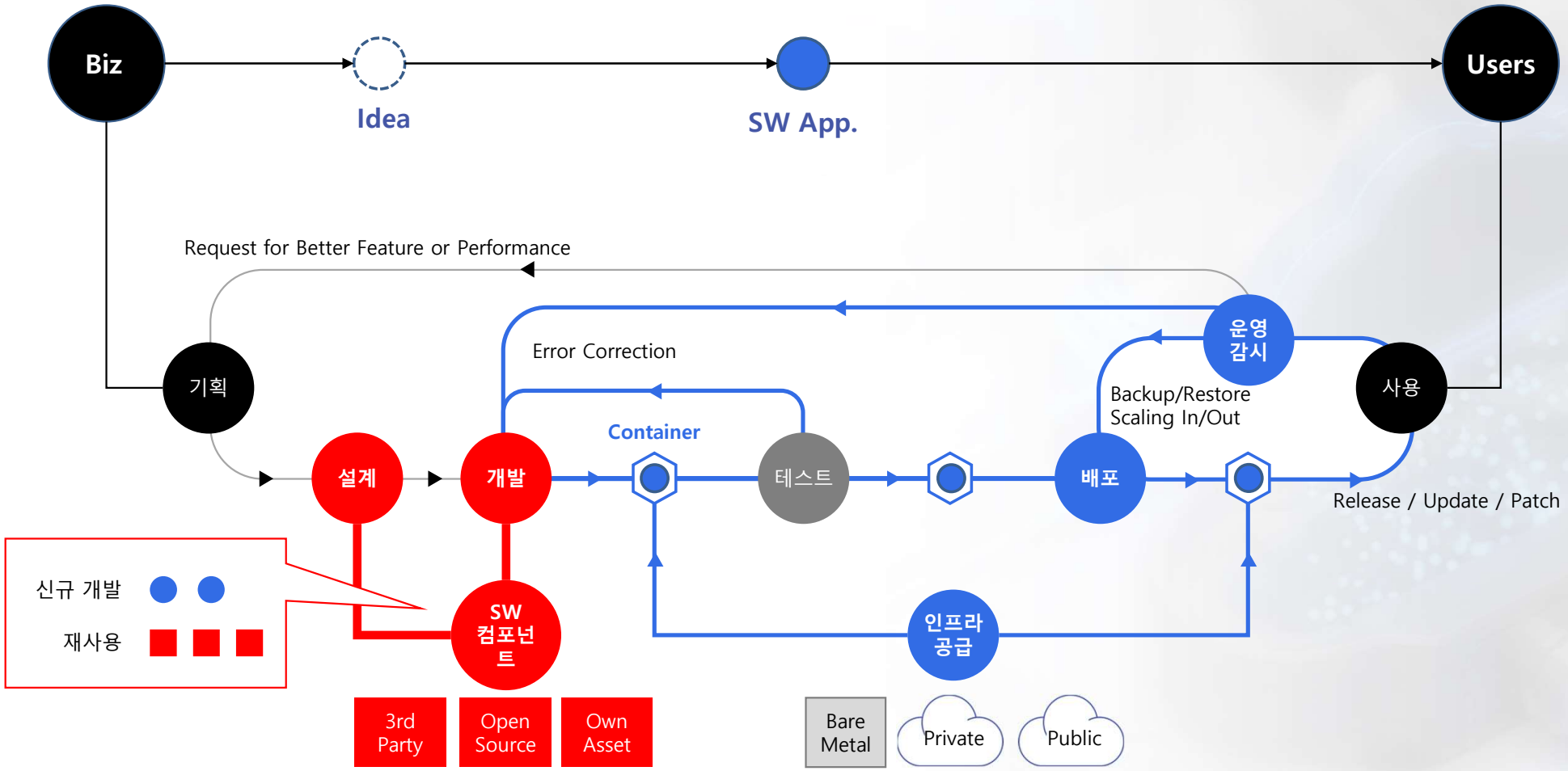
Cloud Native

SW Supply Chain에서의 역할



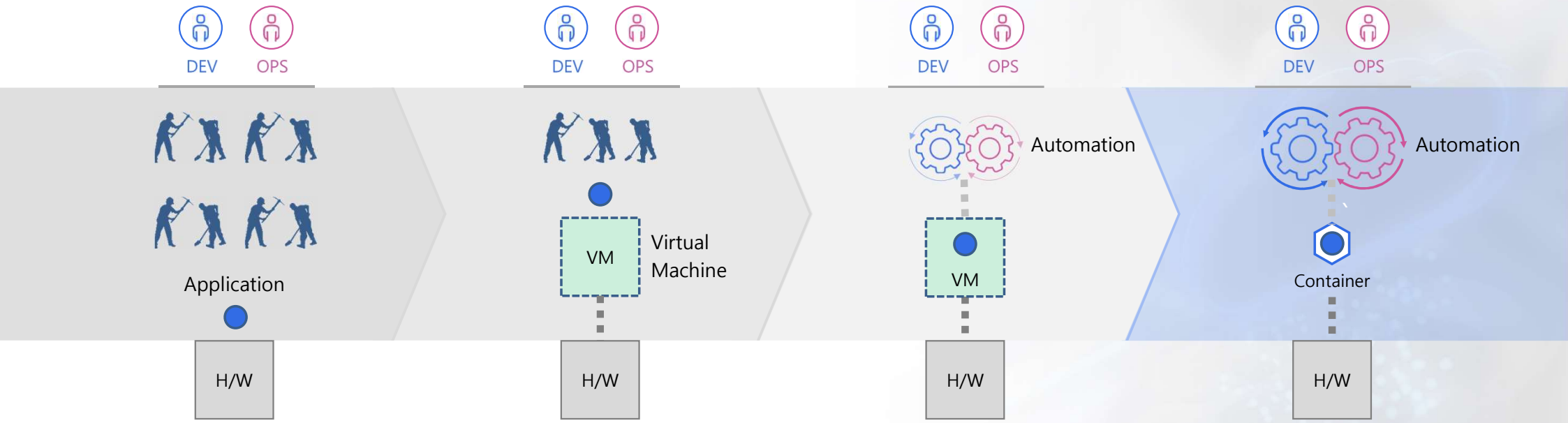
Cloud Native PaaS

SW Supply Chain에서의 역할



IT 환경의 진화 과정

SW Supply Chain에서의 역할



Traditional
개발과 운영을 수작업으로

Cloud
서버 가상화 기술로
HW 자원 공급 문제 해결

Cloud + DevOps
서버 가상화 기술의 확대 적용으로
운영의 자동화 실현

Cloud Native
컨테이너 기술로
경량화, 고속화, 표준화 실현

Cloud Native

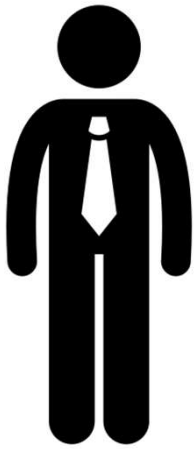
Cloud Plus

Cloud Up

Cloud Next

비유

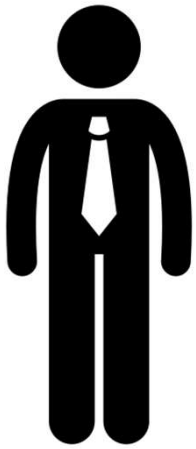
1 세대



1.5 세대

2 세대

APP은 그대로
인프라만 변경 (PM→VM)
서버 단위 APP 배포/운영



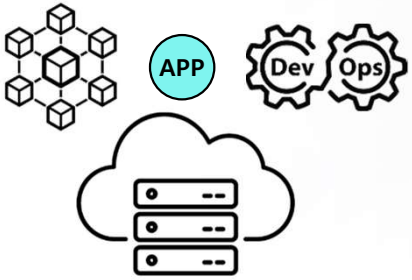
1.5 세대

2 세대

Cloud + MSA, DevOps

Cloud Native의 의미

APP은 그대로
인프라만 변경 (PM→VM)
서버 단위 APP 배포/운영



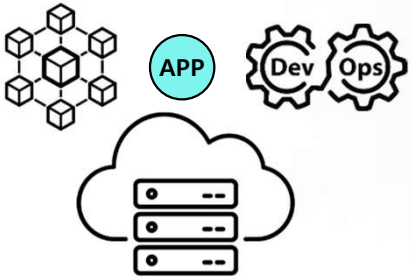
APP 구조/운영 방식 변화
서버 단위 APP 배포/운영

2 세대

Cloud Native

Cloud Native의 의미

APP은 그대로
인프라만 변경 (PM→VM)
서버 단위 APP 배포/운영



APP 구조/운영 방식 변화
서버 단위 APP 배포/운영

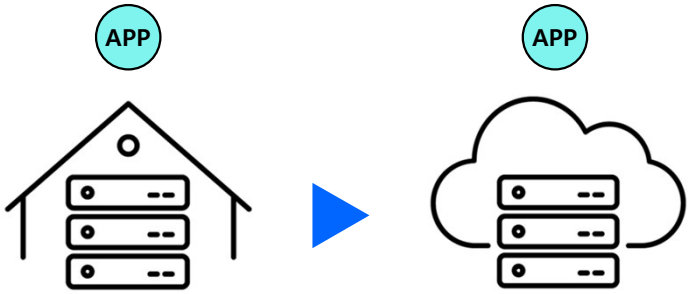
APP 배포/운영 방식의 변화
(서버 → 컨테이너, 클러스터)

Cloud Native

새로운 환경 (Cloud)에서
태어난 (Native)
새로운 형태의 APP
새로운 방식의 APP 배포/운영

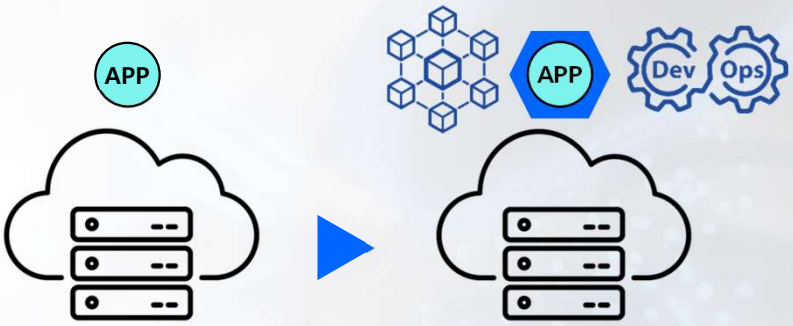
Migration vs. Modernization

Cloud Migration



On-Premise ▶ Cloud

App. Modernization



Traditional ▶ Modern

Cloud의 진화 방향

Slow

Big & Occasional

Faster

Smaller & More Frequent

acornsoft

감사합니다.

K-PaaS Summit 2023