
aws
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FSI005

Untethering innovation: Financial services on AWS Cloud

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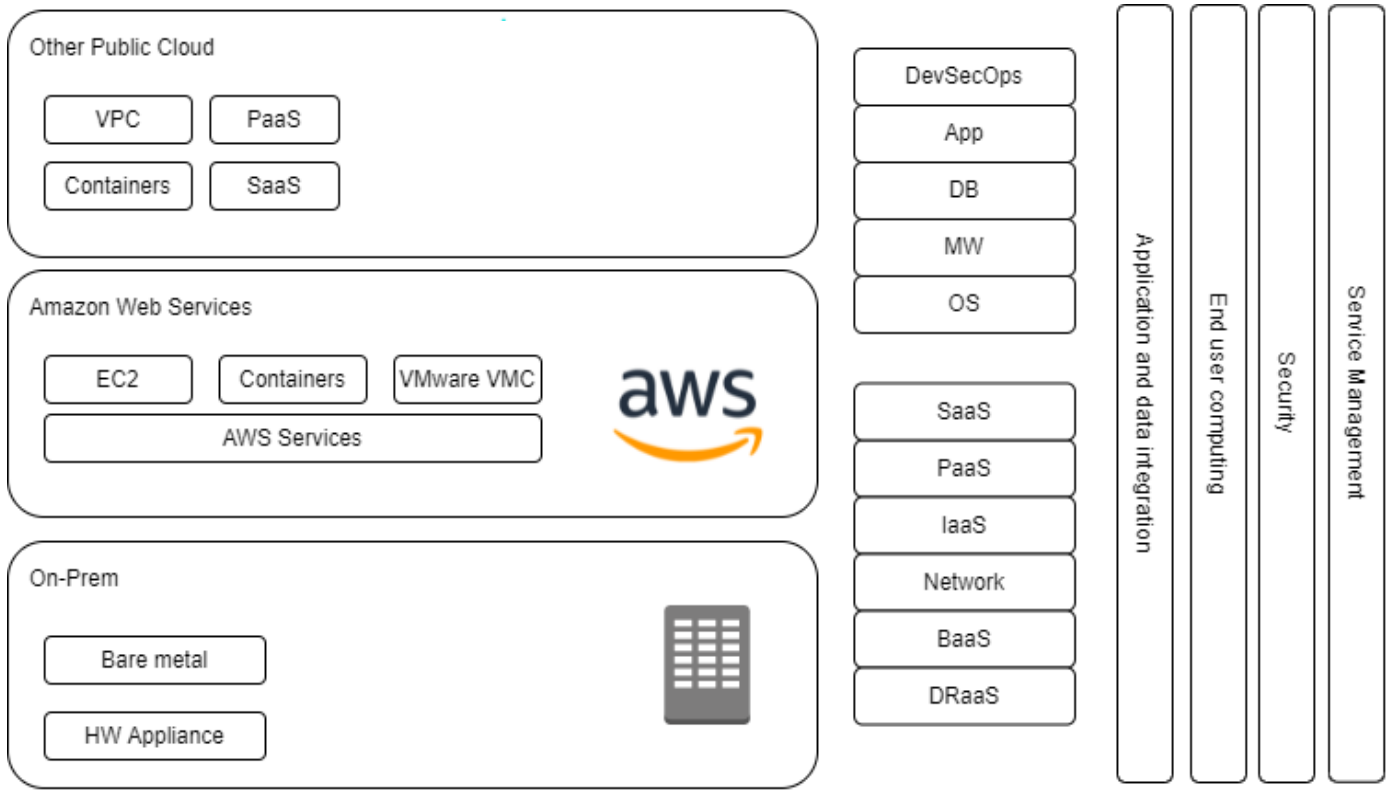
Contents

Kyndryl BFSI Client Journeys with AWS

Bank on AWS cloud: Large european bank partnering with kyndryl

- ✓ Decommissioning the customer's data ~1200 workloads moved to AWS Cloud
- ✓ 20% of workloads moved natively into AWS across EC2 and EKS
- ✓ 80% workloads moved to VMC-on-AWS
- ✓ MPLS → SDWAN
- ✓ Compliance being engineered on AWS



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Low touch landing zone design with automatic infra-as-code generator [1/4]

Problem Statement

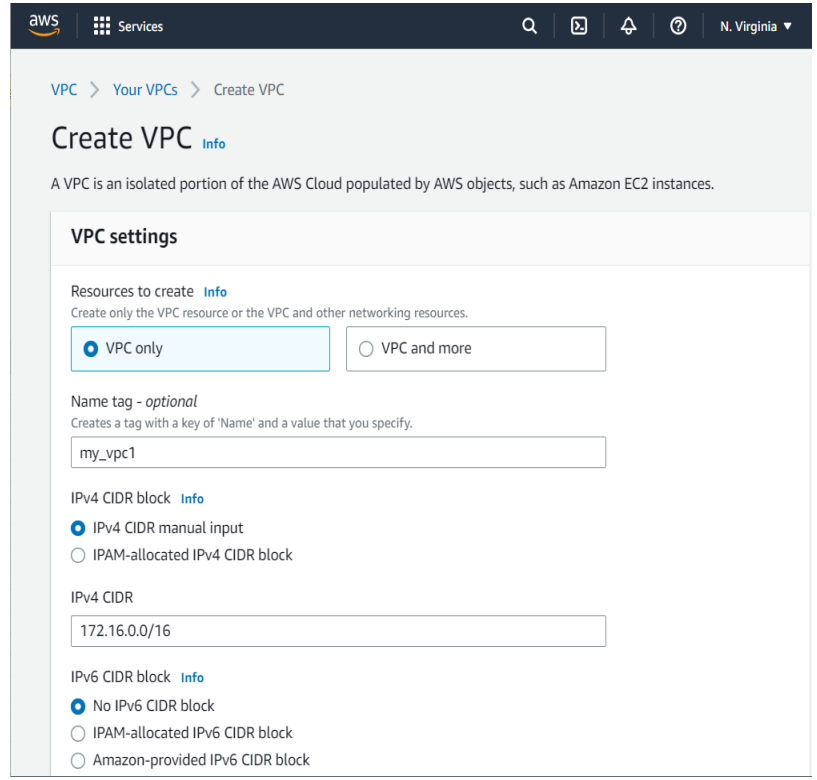
With accelerated cloud adoption, a future is upon us wherein customers **need to create and modify cloud environments on a frequent basis.**

Our customer needs to understand:

- How to remove human error
- How to enable DevOps
- How to minimize need for skills on Infrastructure as Code (IaC)
  - Terraform, ARM, CloudFormation, Crossplane.io

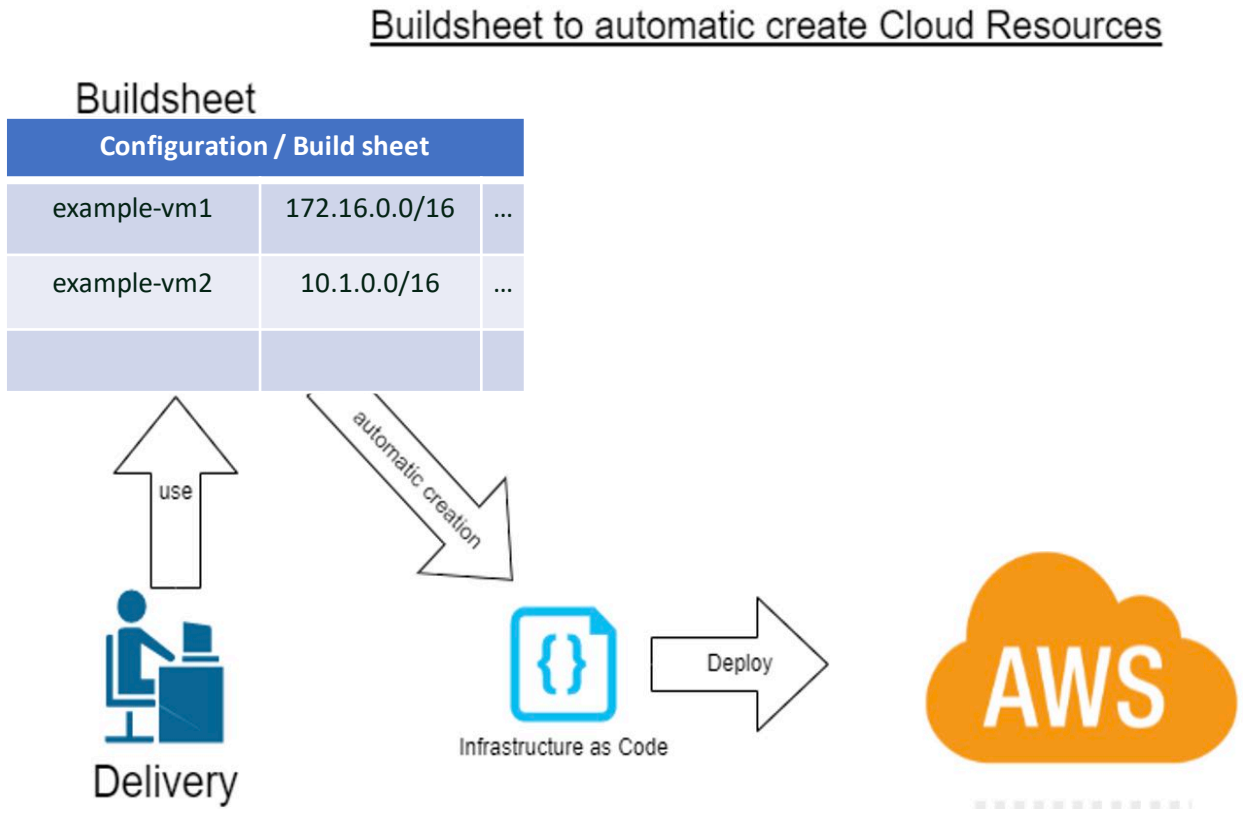
The approach a delivery team typically uses today

Configuration / Build sheet		
example-vm1	172.16.0.0/16	...
example-vm2	10.1.0.0/16	...



Error Prone, No DevOps

Automatic infra-as-code generator [2/4]

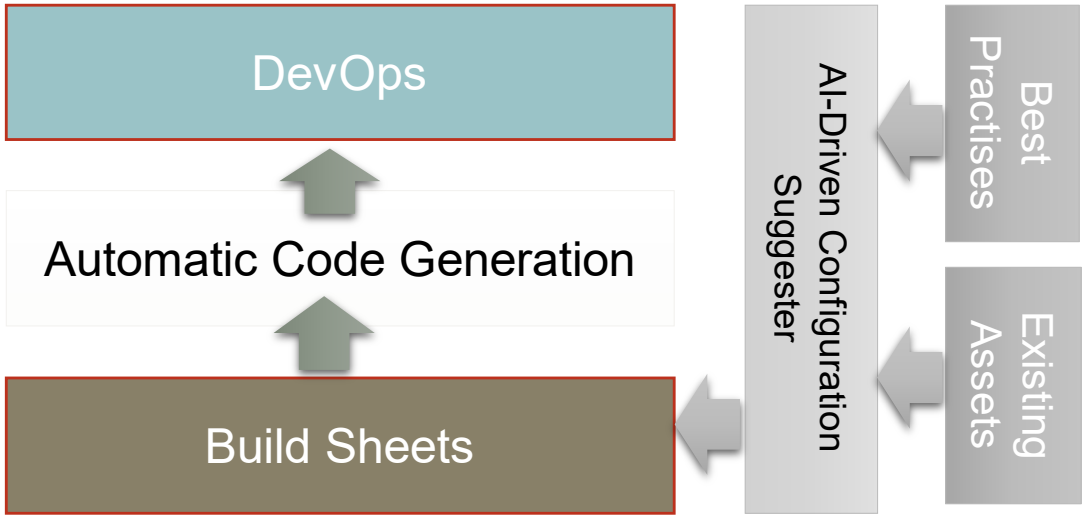


The solution is of course automation.
Our cool innovation is to generate the IaC (be it TF, CF, ARM) **automatically** from the build-sheet. Deploy on any cloud. Solution being used across customers.

Advantages:

- Minimizes the skills in IaC languages
- DevOps enabled on day 1

Architecture



Automatic infra-as-code generator [3/4]

An example build sheet capturing configuration of networks

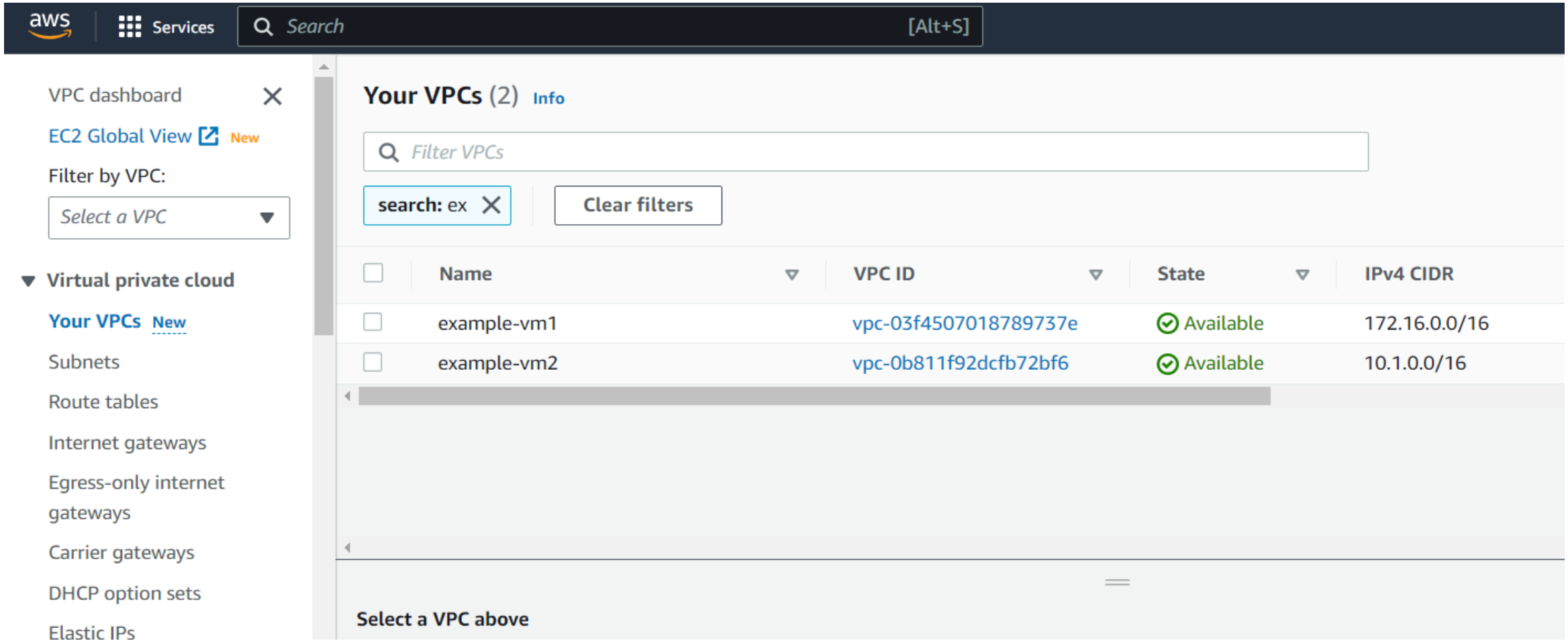
	A	B	C
1	ref_name	cidr_block	tags
2	my_vpc1	172.16.0.0/16	Name="example-vm1"
3	my_vpc2	10.1.0.0/16	Name="example-vm2"
4			
5			
6			
7			

Generate Infrastructure as Code

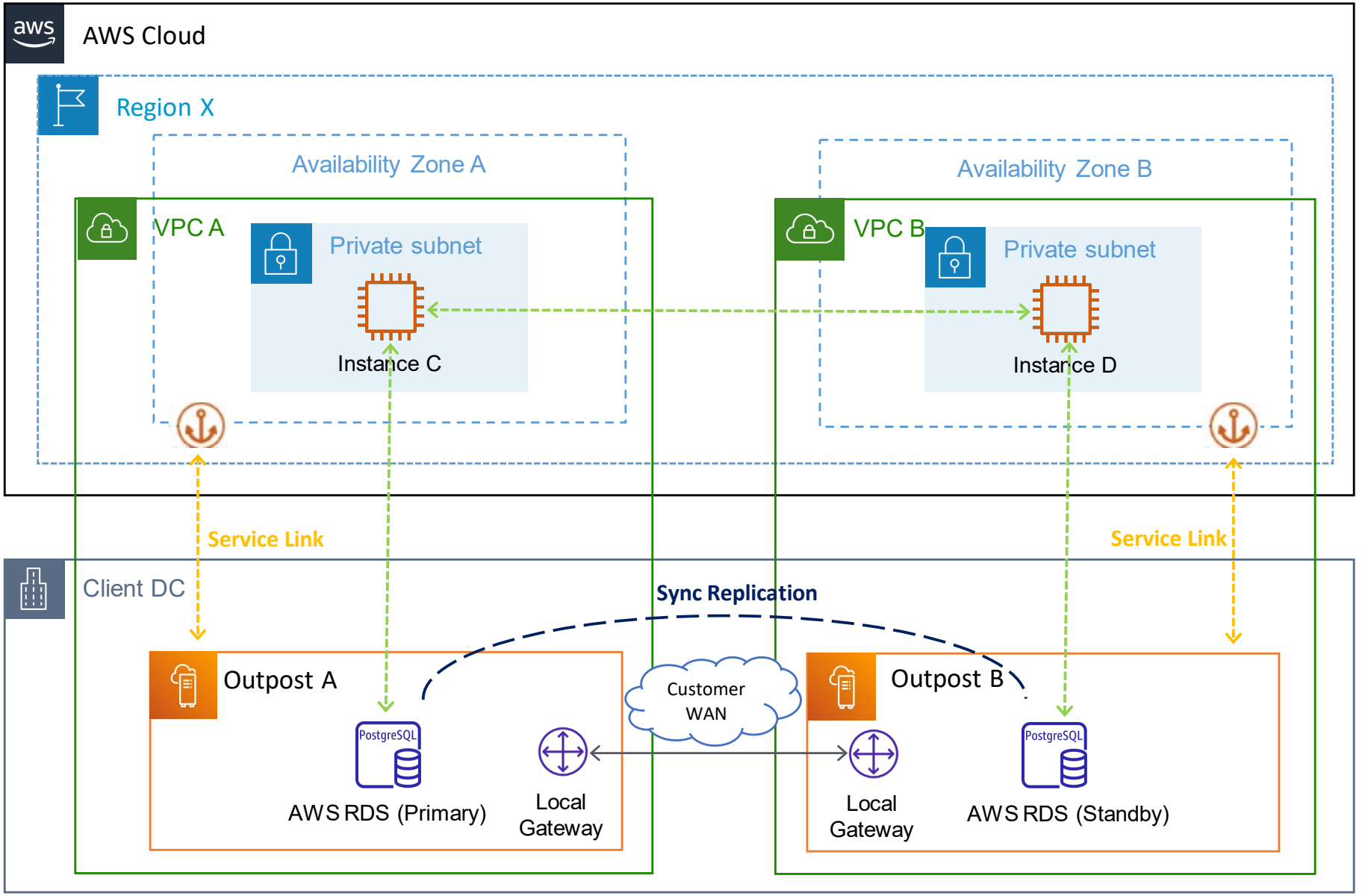
```
{
    "resource": {
        "aws_vpc": [
            {
                "my_vpc1": {
                    "cidr_block": "172.16.0.0/16",
                    "tags": {
                        "Name": "example-vm1"
                    }
                }
            },
            {
                "my_vpc2": {
                    "cidr_block": "10.1.0.0/16",
                    "tags": {
                        "Name": "example-vm2"
                    }
                }
            }
        ]
    }
}
```

Automatic infra-as-code generator [4/4]

Network Resources Created in Cloud

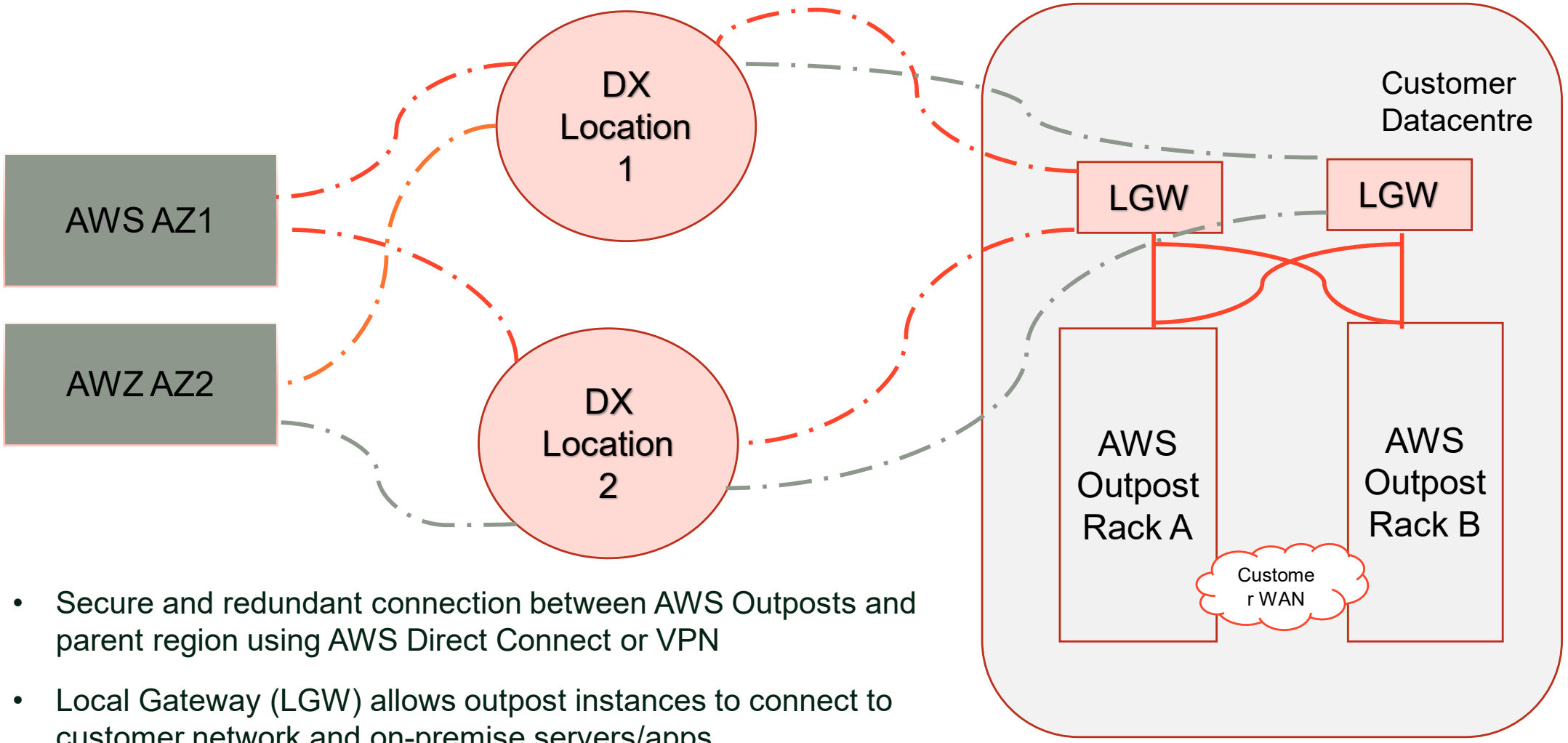


Hybrid experience design for a financial services provider [1/2]



- Dual AWS Outposts architecture through two racks installed in different physically isolated sites, paired with different AZs in parent AWS Region using VPC association
- Services consumed via Outpost include EKS, RDS, S3, EC2 and EBS. In case of failure, RDS automatically promotes secondary to primary role after updating DNS records, App traffic is auto-redirected to new primary
- Local backup/DR/S3-snapshots/monitoring without going through region

Hybrid experience design for a financial services provider [2/2]



- Secure and redundant connection between AWS Outposts and parent region using AWS Direct Connect or VPN
- Local Gateway (LGW) allows outpost instances to connect to customer network and on-premise servers/apps

Container-native transformation of a health insurance provider [1/2]

The Challenge

Multiple legacy IT systems & bespoke applications. **1200 monolith apps being decomposed to microservices.**

- Consolidate & shift target solutions to cloud in alignment with regulations, competition & consumer demand
- The target environment has **600 high horsepower cluster across 25 OpenShift clusters on 3 environments** – AWS, IBM Cloud & on-premise

Solution & Delivery Approach

- **Forward-looking management** with bots, automation & self-healing
- Consistent migration in waves and immediate manage services both on cloud native containers and OpenShift container platform
- Collaborate with customer's application team – we are their extended ops team
- Collaborate with customer's security team, comply with security processes

85%	high-volume issues addressed without human intervention
30%	workloads migrated across On-prem to cloud
25%	reduction iof high-priority system incidents, improving system up-time and reliability

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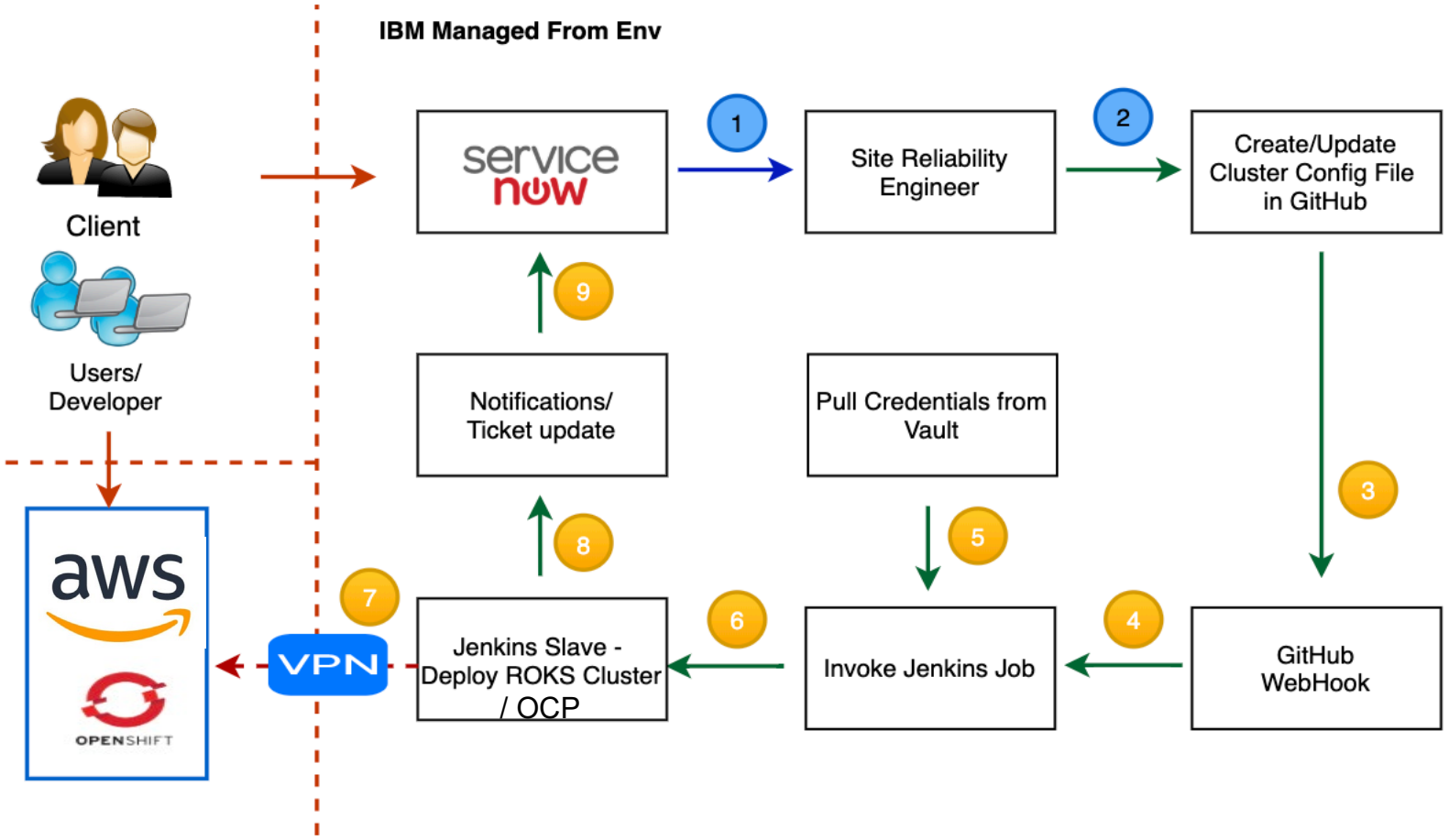
Container-native transformation of a health insurance provider [2/2]



- Service requests handled through *ArgoCD* automation
- If a cluster has to be added or deleted, do it declaratively
- Declarative GitOps on YAML ensures current state converges to desired state through ArgoCD automation. Cluster change, backup frequency of etcd and storage classes
- Each change triggers a Jenkins job. Apply changes to cluster based on changes to GitRepo
- Roll back changes in case of failure
- Reflect changes via ITSM tool and ChatOps

Advanced delivery model with Bots and automation → Auto-configuration and self healing

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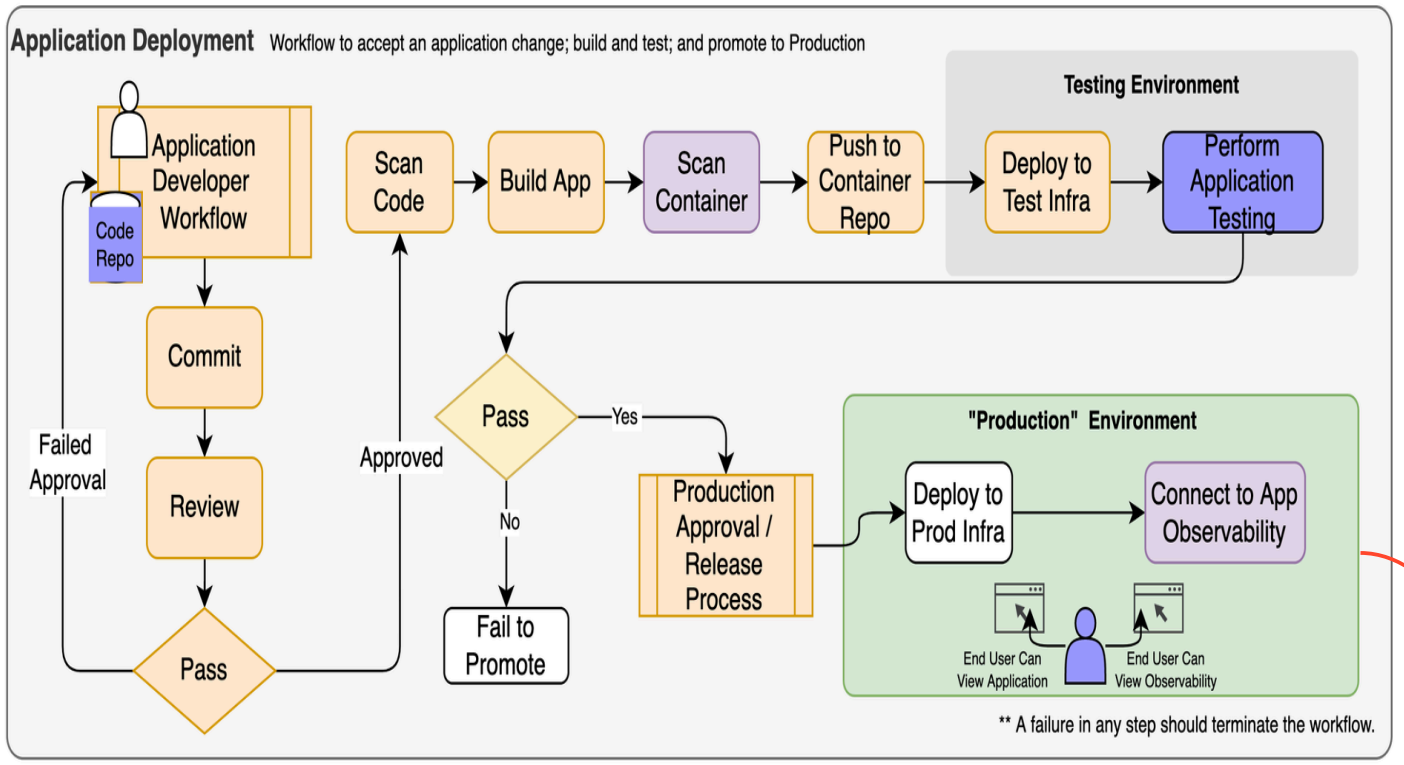
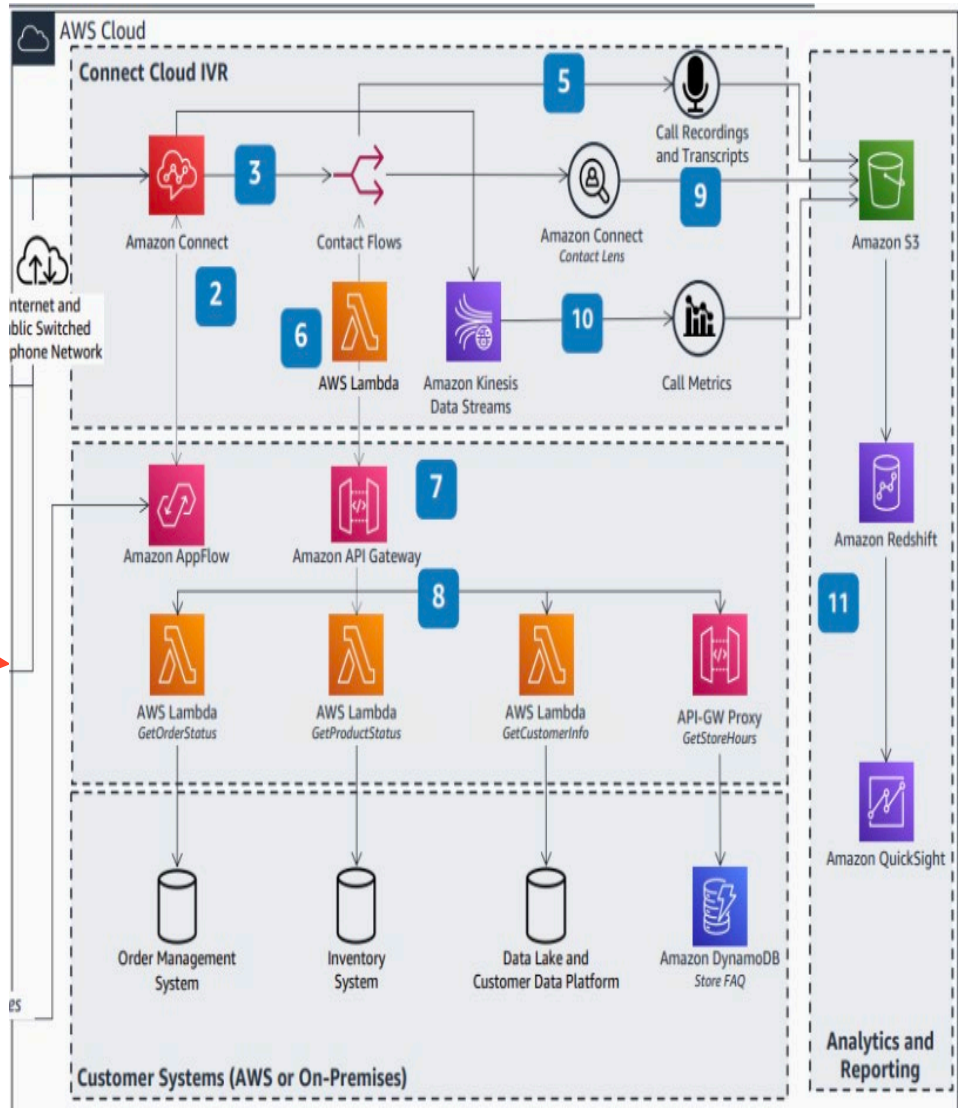
Modernops for cloud native application development for a start-up





- Everything-as-code for Cloud-native development
- Build GitOps workflows through GitHub Action, Terraform and cloud-native IaC
- Check-in code to Git → Approval workflow to merge code → Trigger auto-build → Scan code for vulnerabilities (cleartext secrets, stores, dated patches) → Budget checks (FinOps, spend predictions) → Infrastructure Provisioning → Push docker image to registry → Pull request to K8S/Serverless runtime (Test→ Preprod → Prod deployment) → Release Management (Roll-back, Roll-forward, scale-out/in)

Thank you!

Please complete the session survey

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