
AWS
re:Invent
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HYB306-R

Deploying highly available and fault-tolerant applications at the edge

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AWS secure hybrid edge

Use cases and customer challenges

Local Zones

Outposts Family

AWS Snow Family

Questions

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Why customers choose AWS

Most experience

15

years helping millions of customers

Global reach & high availability

84

Availability Zones spanning 26 geographic Regions – 8 new Regions announced

Security & compliance

230+

security features

Customer obsession & innovation

200+

service offerings

Local Zones/Wavelength Zones

17/25

32 Local Zones announced

Improve TCO

109

price reductions since 2006

AWS Direct Connect locations/points of presence

108/310+

Ecosystem

10,000+

products across 50 categories
1,600+ ISVs

aws

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Customers want the same experience across on premises and the cloud



Same reliable, secure, and high-performance infrastructure



Same operational consistency



Same services and APIs



Same tools for automation, deployments, and security controls



Same pace of innovation as in the cloud

aws

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Cloud continuum

REGIONS



METRO AREAS & TELCO NETWORKS



ON PREMISES



REMOTE & LIMITED CONNECTIVITY LOCATIONS

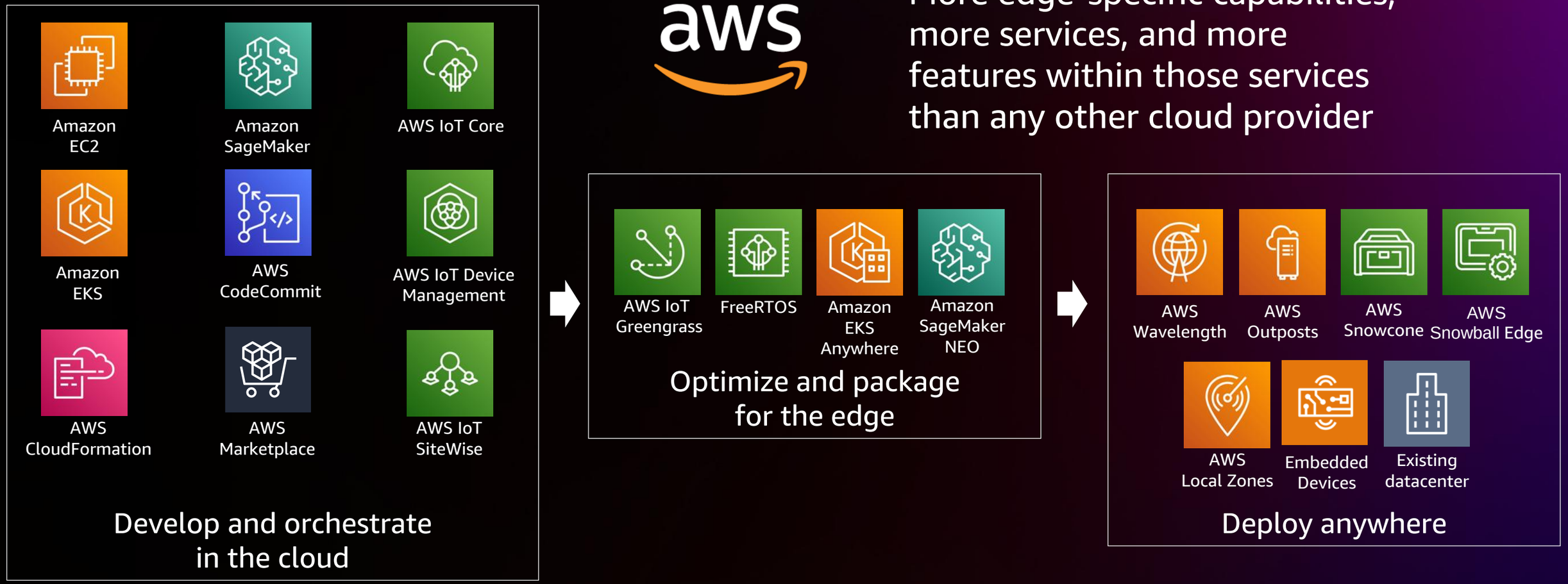


SMART DEVICES



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Modern applications at the edge



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AWS Local Zones

- AWS infrastructure deployment that places compute, storage, database, and other services closer to customers
- For applications that require single-digit millisecond latencies



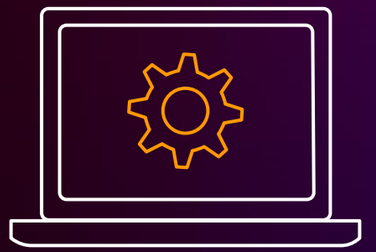
AWS infrastructure at the edge



Local compute, storage, databases, and other services



Connect to services in AWS Regions



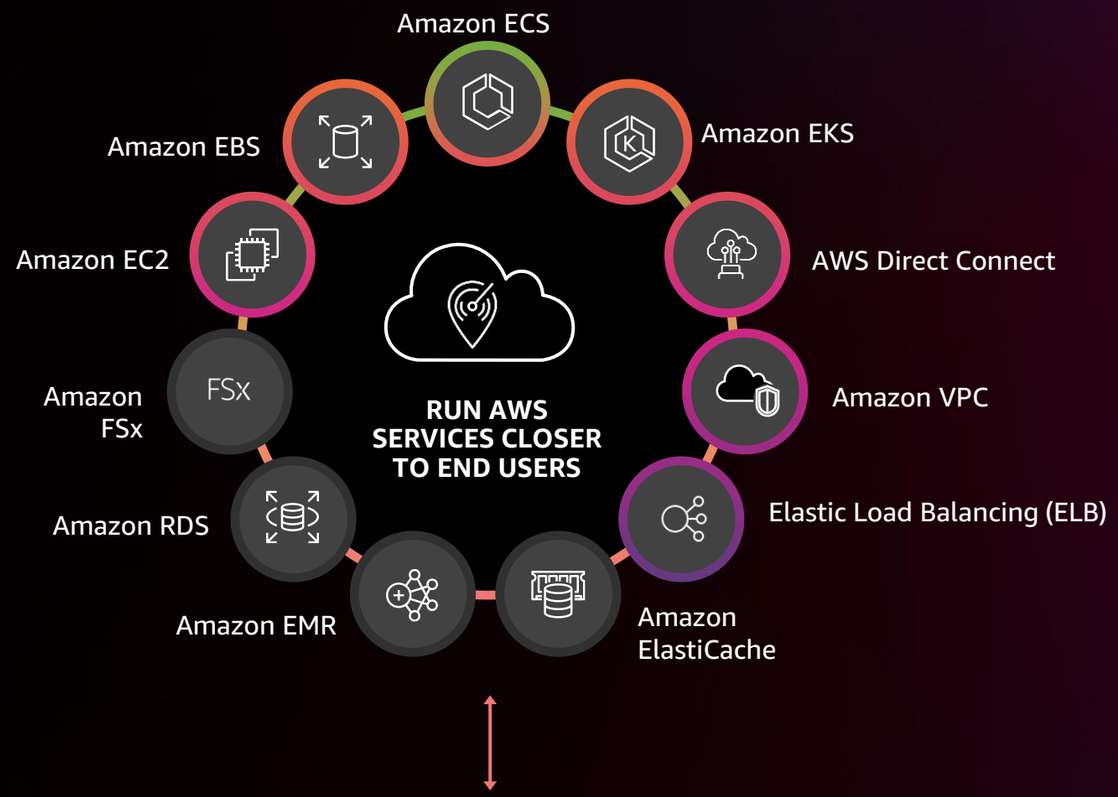
Deliver new low-latency apps

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AWS Local Zones services



AWS CloudTrail

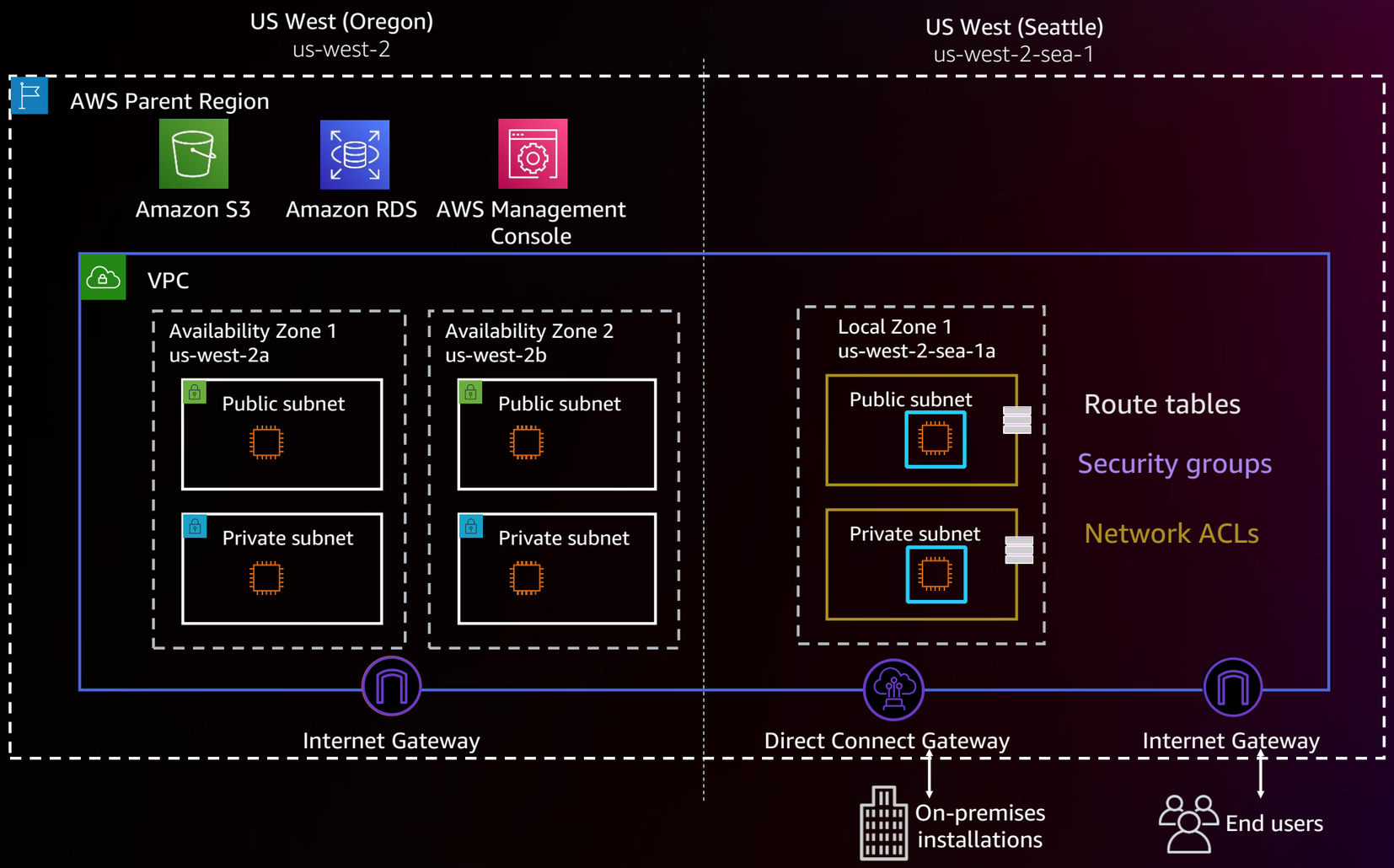
AWS CloudFormation

Amazon EC2 Auto Scaling

Amazon CloudWatch

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AWS Local Zones architecture



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Architecting for higher availability



AWS Local Zone
ex: US East (Atlanta)

AWS Region
ex: US East (North Virginia)



AWS Local Zone
ex: US East (Dallas)

AWS Local Zone
ex: US East (Houston)





AWS Local Zone

AWS Outposts
Self-hosted or
co-location data center



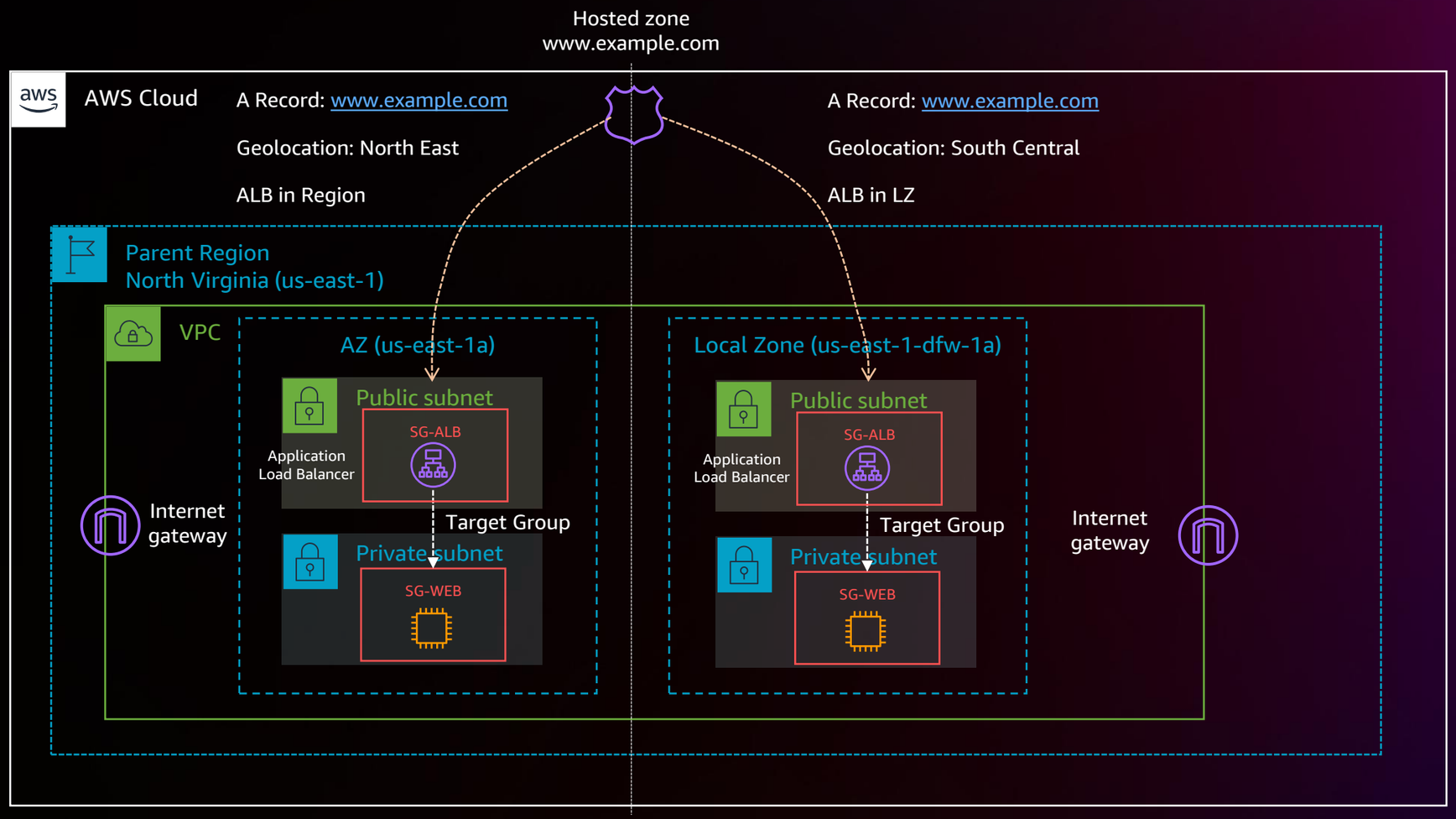
AWS Local Zone

On-premises data center

Care must be taken when engineering, to meet data residency and fault domain considerations

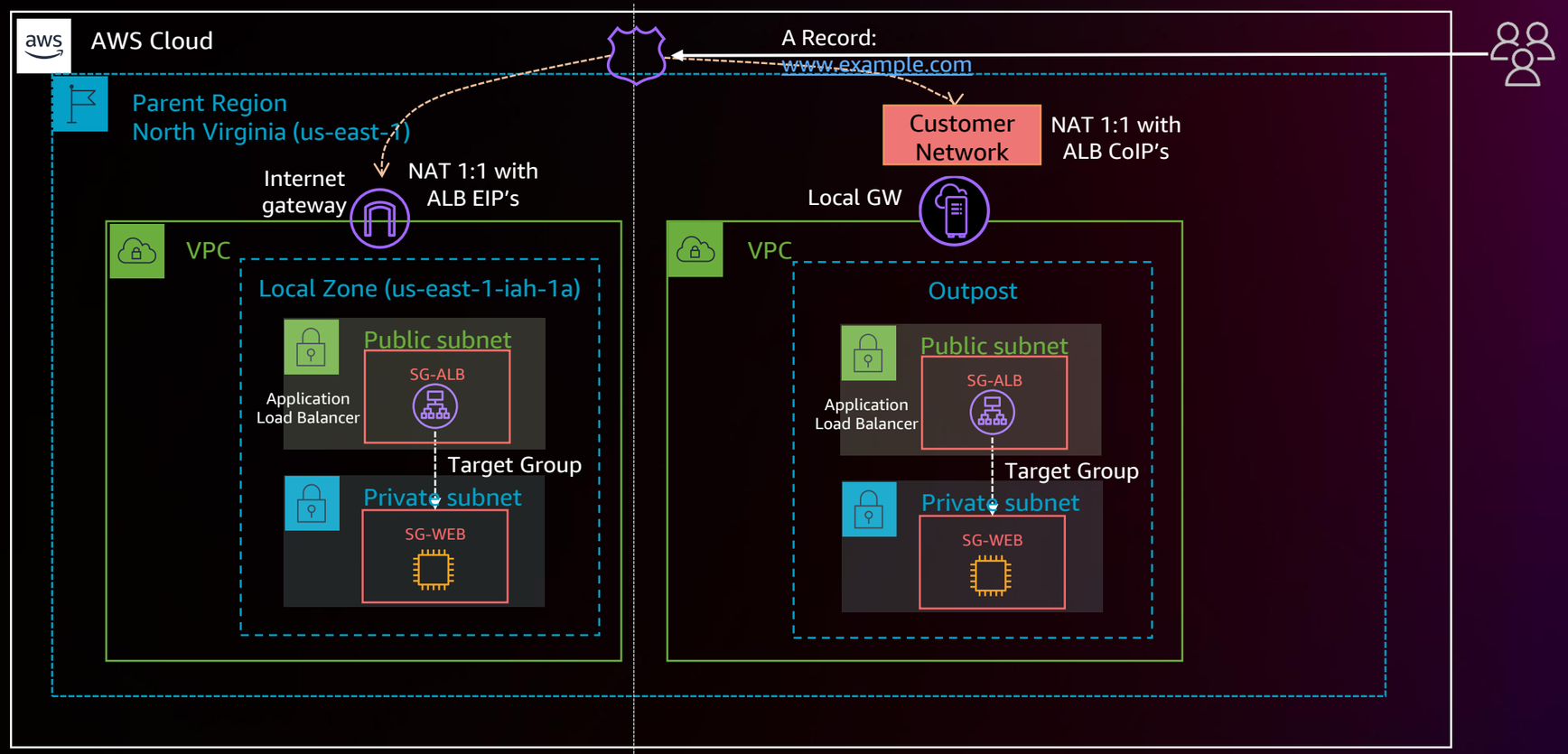
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High availability with a Region



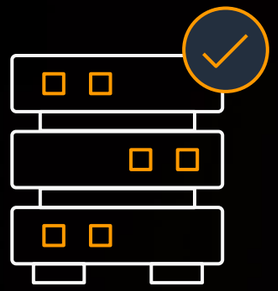
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High availability with AWS Outposts



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AWS Outposts bringing AWS on premises



Same AWS designed infrastructure as in AWS data centers (built on AWS Nitro System)



Fully managed, monitored, and operated by AWS as if in AWS Regions



Single pane of management in the cloud providing the same APIs and tools as in AWS Regions

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AWS Outpost rack

Industry standard 42U rack

Fully assembled, ready to be rolled into final position

Installed by AWS, simply plugged into power and network

Centralized redundant power conversion unit and DC distribution system for higher reliability, energy efficiency, easier serviceability

Redundant active components, including top-of-rack switches



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Simplify deployment and operations with AWS services

Create AWS resources and managed services using AWS regional console or API

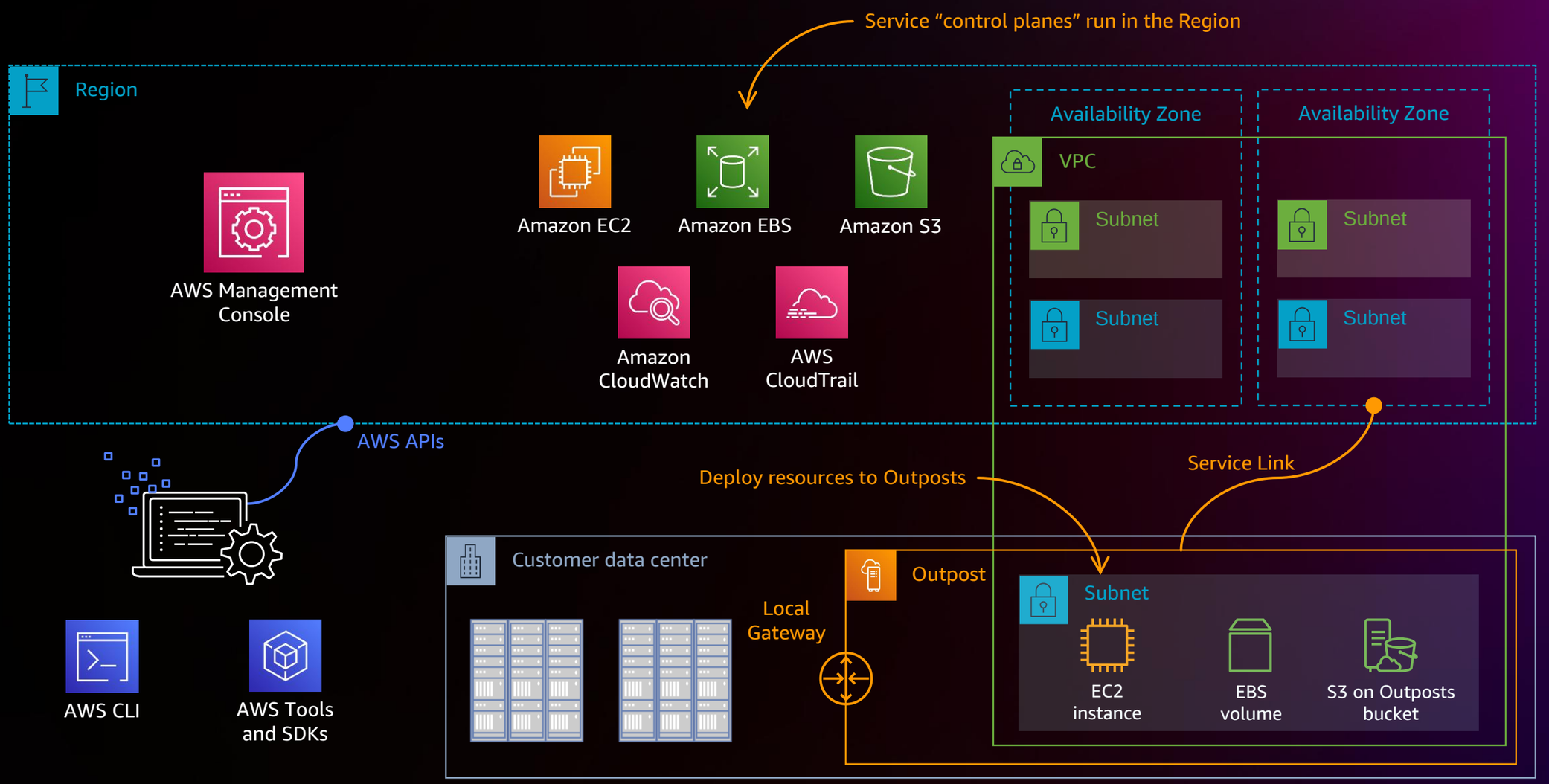
AWS takes care of operations such as monitoring, patching, and backups for managed services

Deep integration with AWS IAM and VPC for access polices and network rules



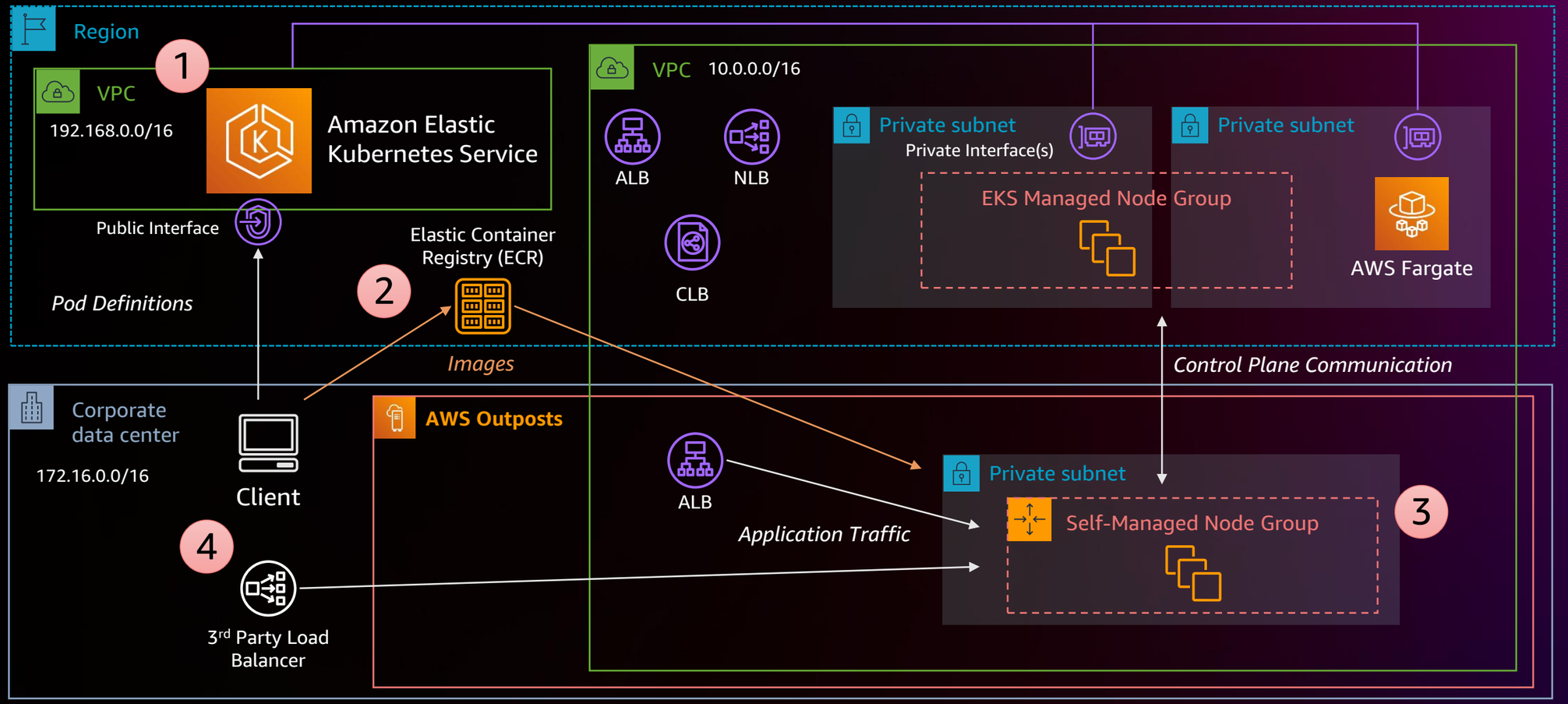
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VPC extension



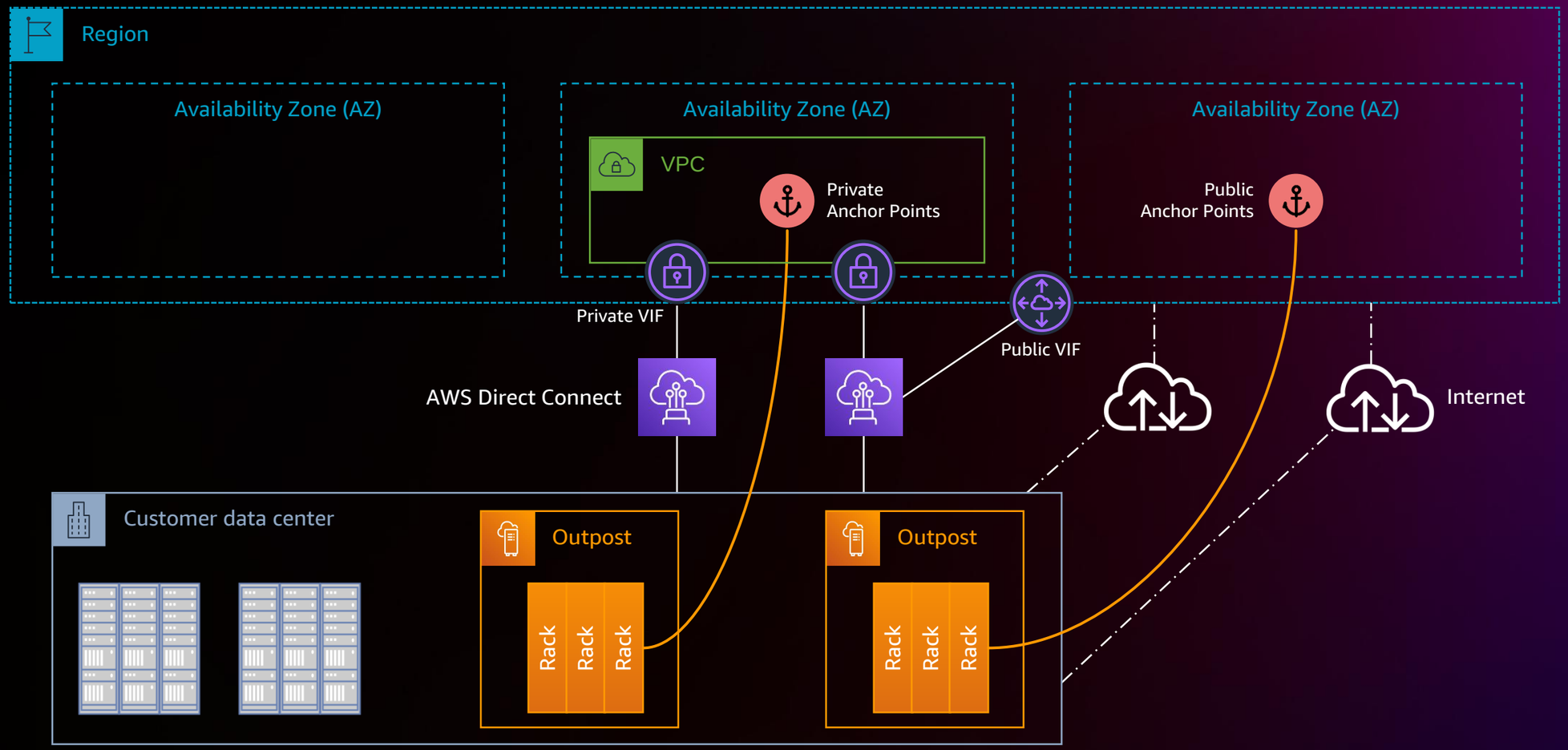
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EKS on Outposts architecture



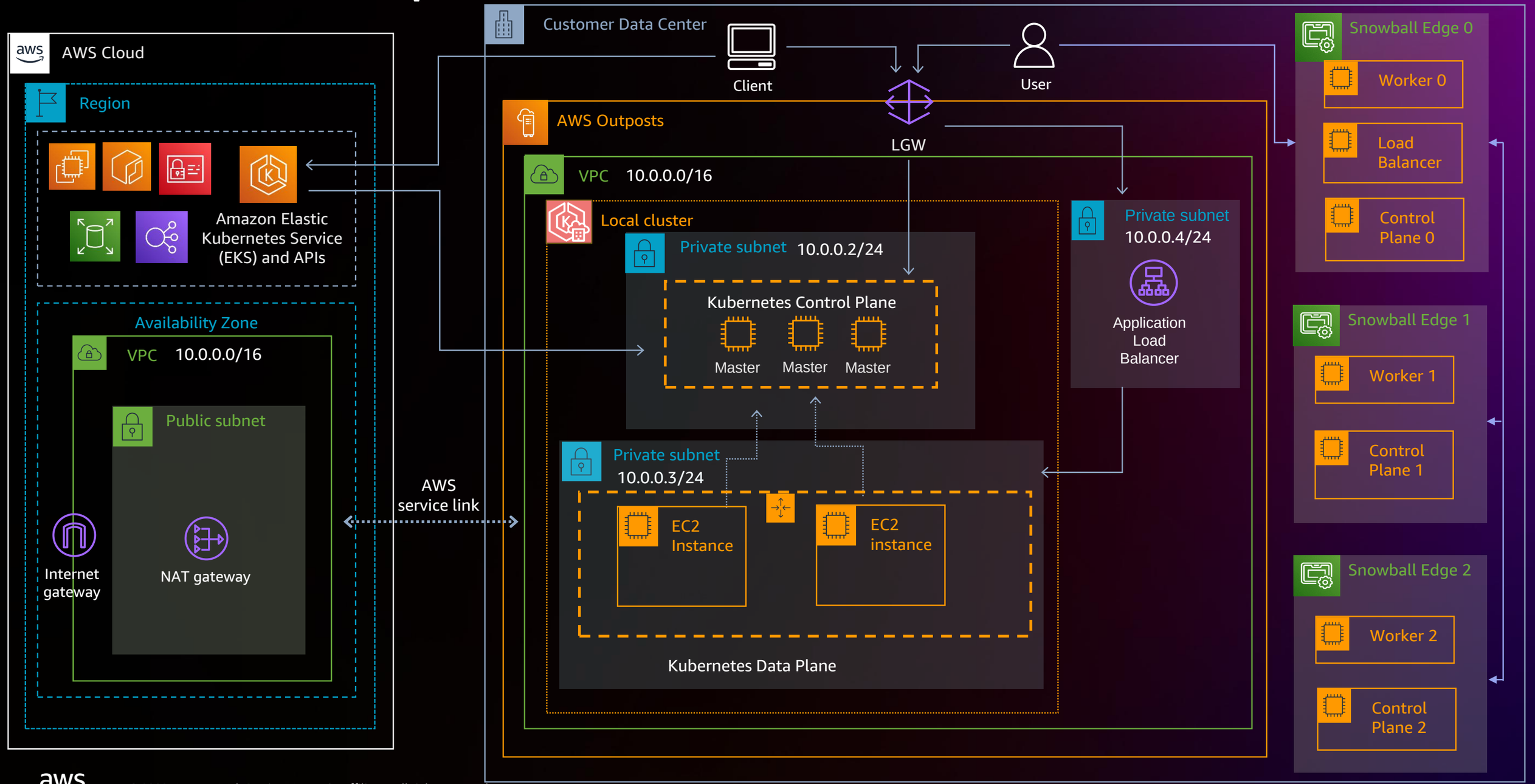
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Outpost HA in customer data center



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EKS failover from Outpost to Snow



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AWS Snow Family devices



AWS Snowcone








AWS Snowball Edge






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AWS Snow Family use cases

Data movement

Edge computing



Customer sites

Edge sites

- Set of services and functionality on the partially to fully disconnected and secure edge
- Enables data collection, data processing, and data movement from the edge to AWS

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AWS services supported on Snow Family



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Thank you!

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