
aws
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CP-02

Reinventing hybrid: Extending AWS to where enterprises need it

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Why go hybrid ?

Extend the benefits of AWS …

Same reliable, secure, and high-performance infrastructure

Same operational consistency, same APIs

Same tools for automation, deployments, and security controls

Same pace of innovation as in the cloud

… to deliver specific use cases

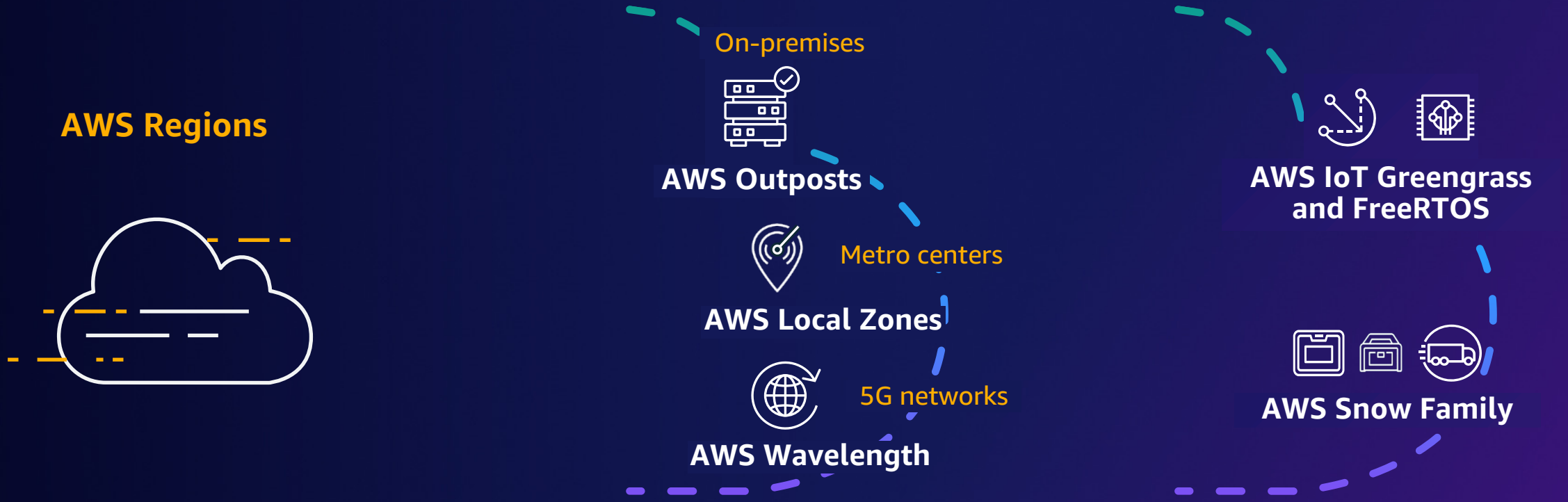
low-latency

local data processing

data residency

Cloud continuum

AWS—DELIVERING CLOUD WHERE CUSTOMERS NEED IT



AWS Outposts

Amazon ECS

Amazon EKS

Amazon EC2

Container Orchestration and Compute Services compute, memory, and IO optimized

Fully Managed Database, Map Reduce and In-Memory cache

Amazon RDS

Amazon Elasticache

Amazon EMR

Amazon S3

Amazon EBS

Amazon EBS Local Snapshots

Block and Object Storage

Application Load Balancer (ALB)

Fully Managed Load Balancer

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AWS Outposts – Tipico iGaming Expansion

Challenge

To expand its bookmaking business internationally, Tipico had to deploy infrastructure in colocation facilities and use different tools and services to run its application than it used in the cloud.

Solution

The company used AWS Outposts to rapidly and compliantly enter and expand in the US market while optimizing costs, simplifying its architecture, and gaining the agility for future rapid expansion.

Benefits

Entered US market 5–10x faster
Reduced bet slip process from 400–500 ms to 150 ms
Onboards engineers in 24 hours instead of 1–2 weeks

"AWS Outposts ideally fit our use case. We can use the AWS APIs, and we can use all we have in code; we just need to make some small adjustments."

– **Thorsten Hanf**, head of enterprise operations, Tipico

Company: Tipico

Industry: Gaming

Country: Global

Website: www.tipico.com/us

About Tipico

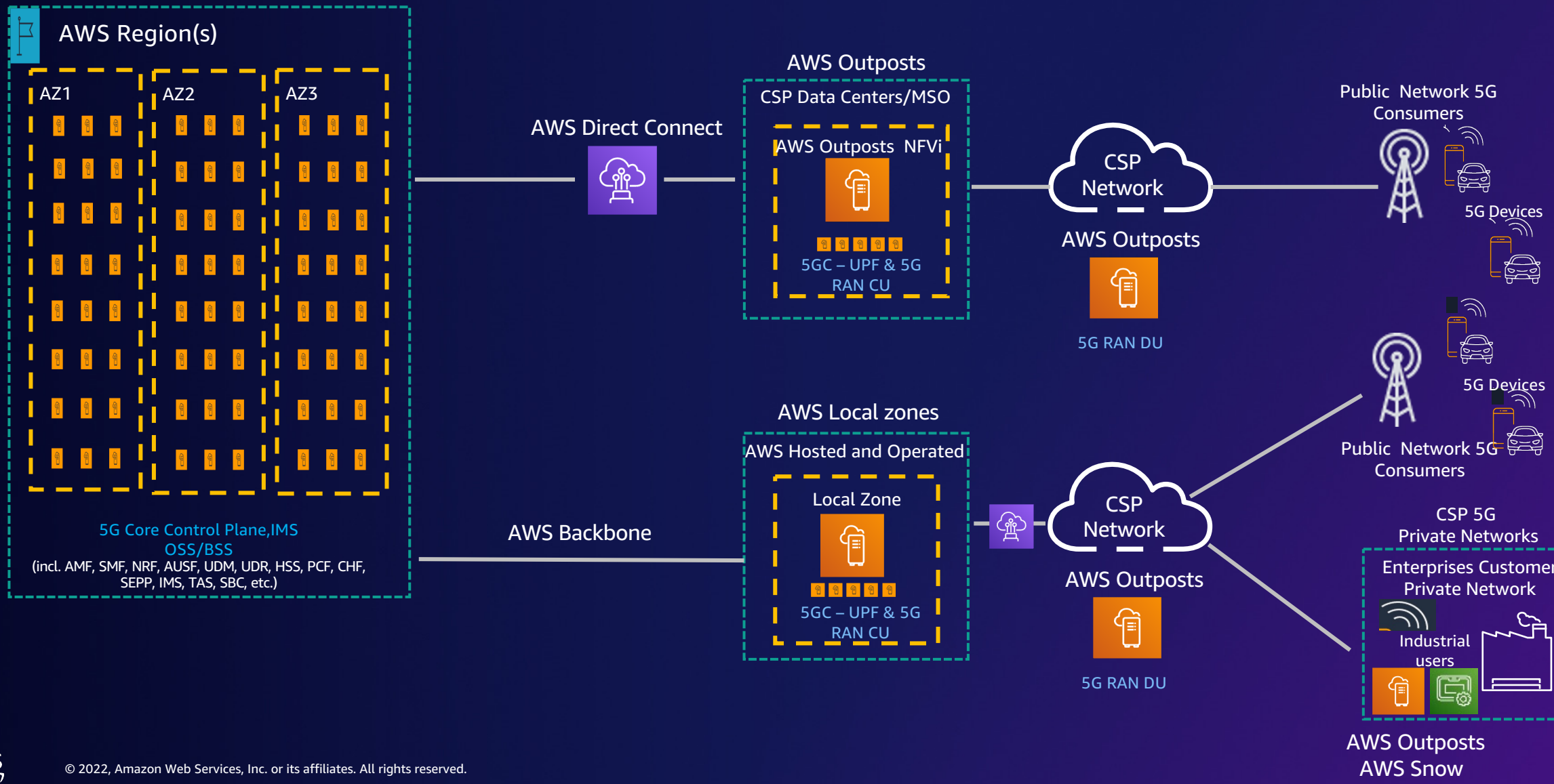
Founded in 2004, Tipico is one of the leading gaming operators in Germany and a top gaming operator worldwide. Serving seven million customers, it offers safe, secure digital and mobile betting entertainment across 30 sports.

AWS Local Zones

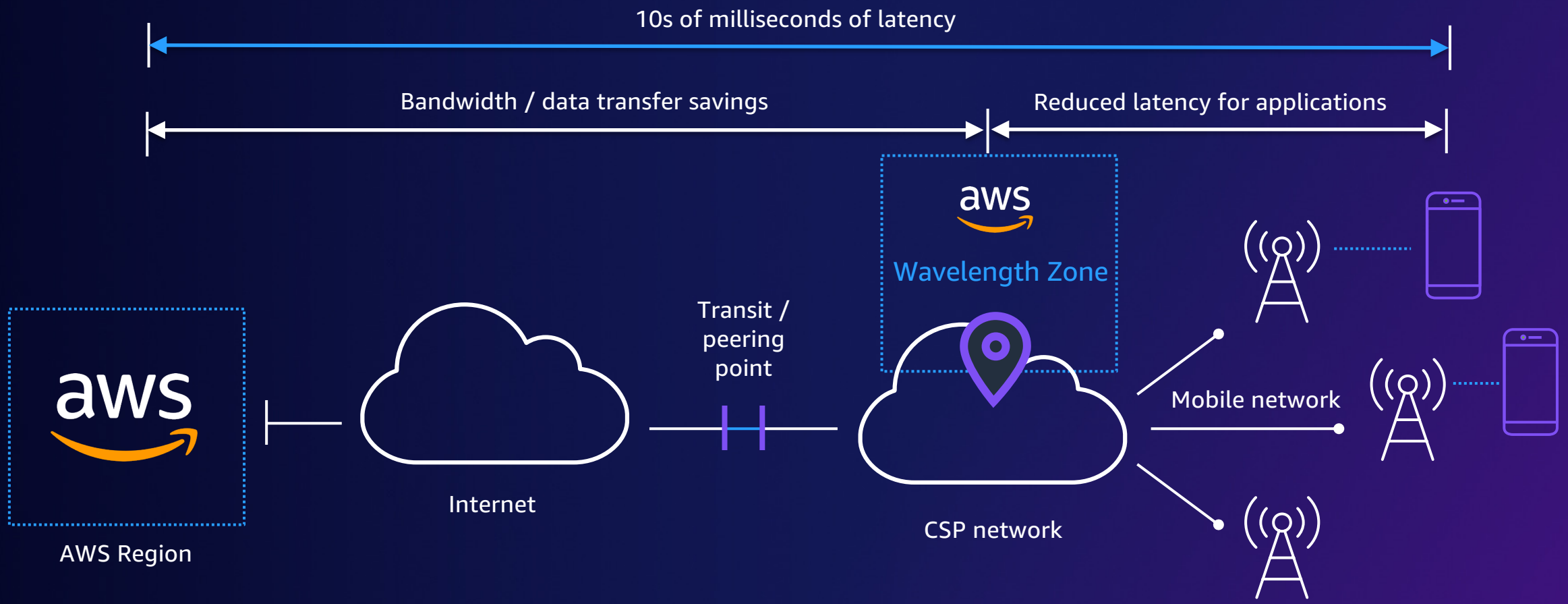
32 New Local Zones

Generally available starting 2022

AWS Local Zones – 5G Network for Dish

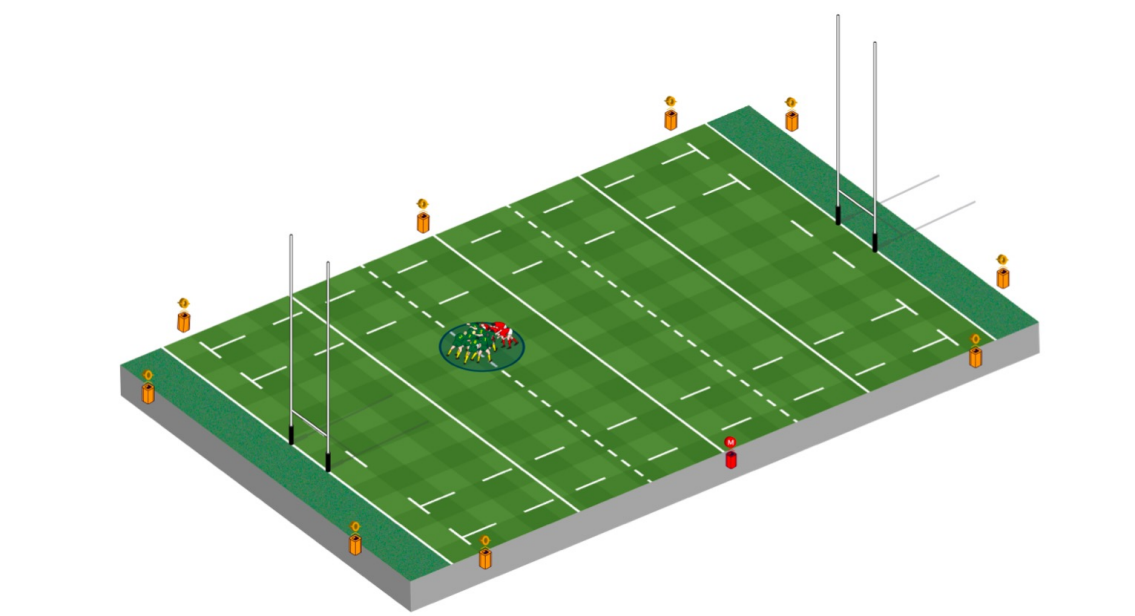


AWS Wavelength



AWS Wavelength – Use Case: Sportable Real Time Insights

SPORTABLE
SEE THE GAME



- **Use Case :** Service Enables fans get enhanced information on a match in real-time, creating better engagement with existing supporters and winning new ones. Assist coaches make better tactical decisions in real-time, scout the opposition and train their players in more focused ways. Challenge is to enhance the deployment of the service without impacting quality
- **Solution :** Leverage 5G and Wavelength Zones to host Match Tracker technology significantly simplifying the time to deploy.
- **Outcome.** 5G and WLZ provide a low latency service that removed the need for on site deployment and reduced the install time significantly. Improved economics by leveraging a PAYG commercial model and simplified networking via mobile.

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Architecture and Approach to Hybrid Edge

What we'll cover

How to approach hybrid solutions

Setting a baseline

Edge architectures

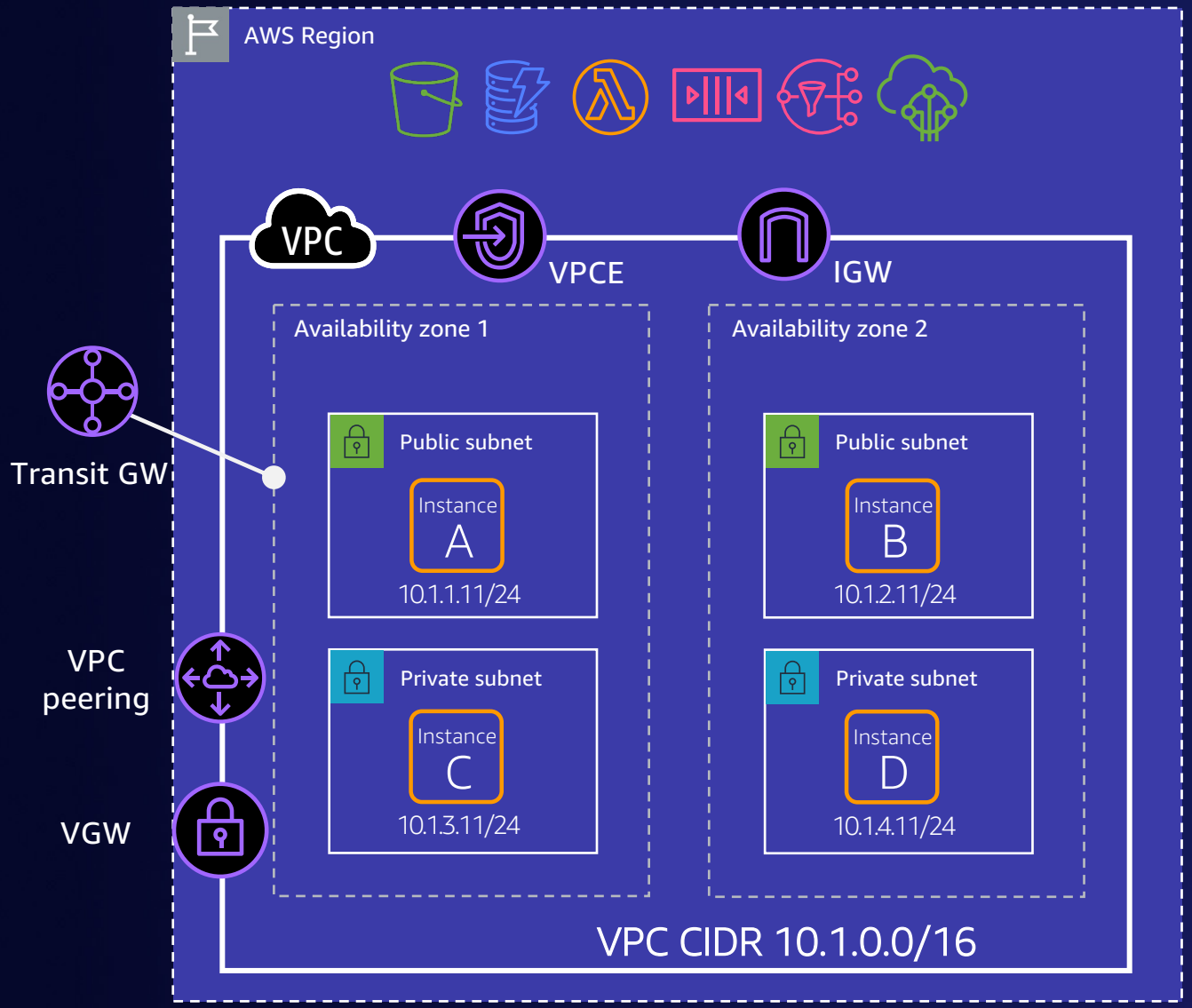
What next?

How to approach hybrid solutions?

- Why can’t it go in region?
  - Latency
  - Data locality/data residency
  - Application migration with data locality
- What am I trying to achieve?
  - Extending the edge of AWS closer to where I need the processing to happen
- What do I want to avoid?
  - Thinking about “Where do I want my servers?”

Setting a baseline – What is a VPC, really?!

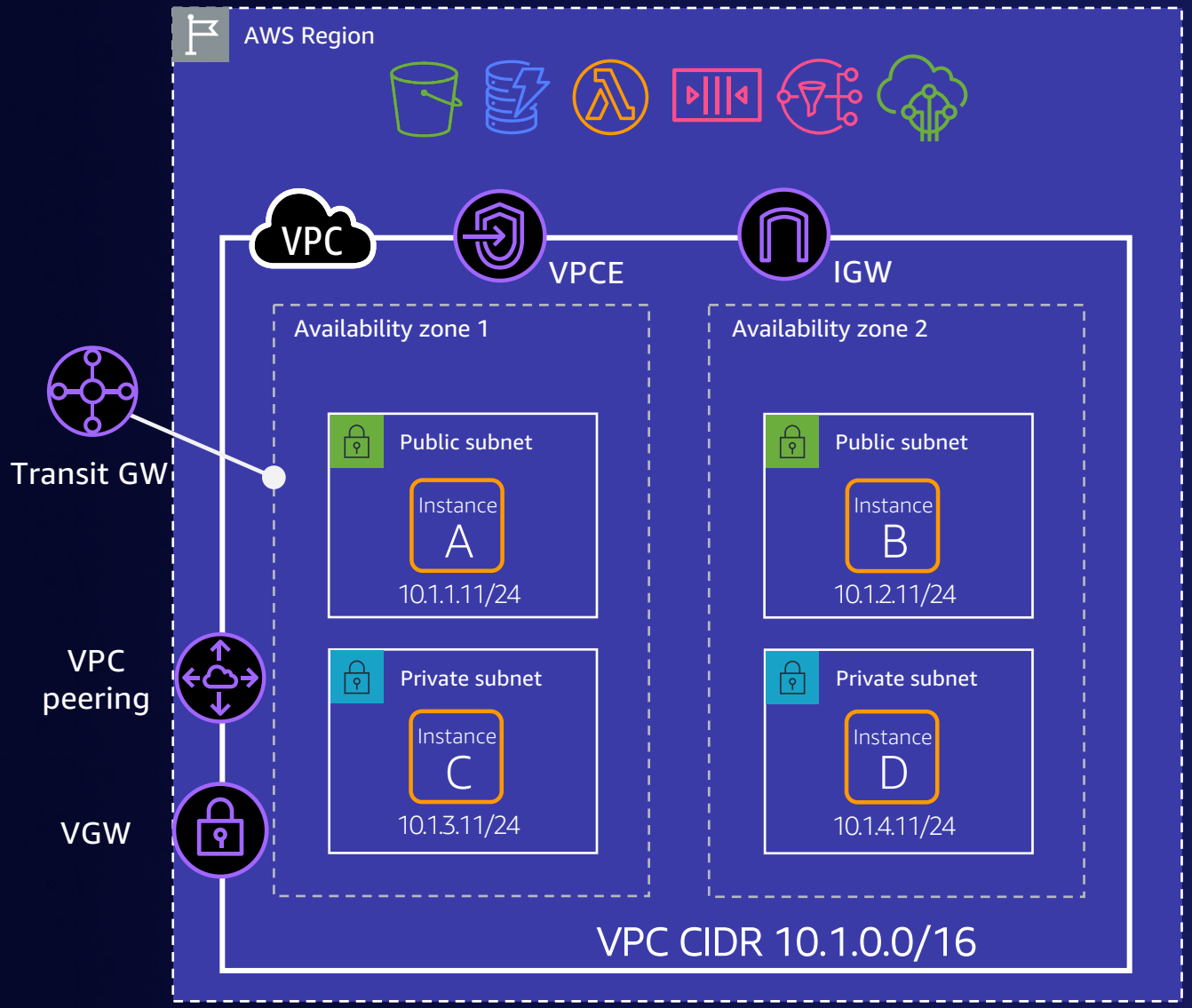
VPCs – a virtual construct



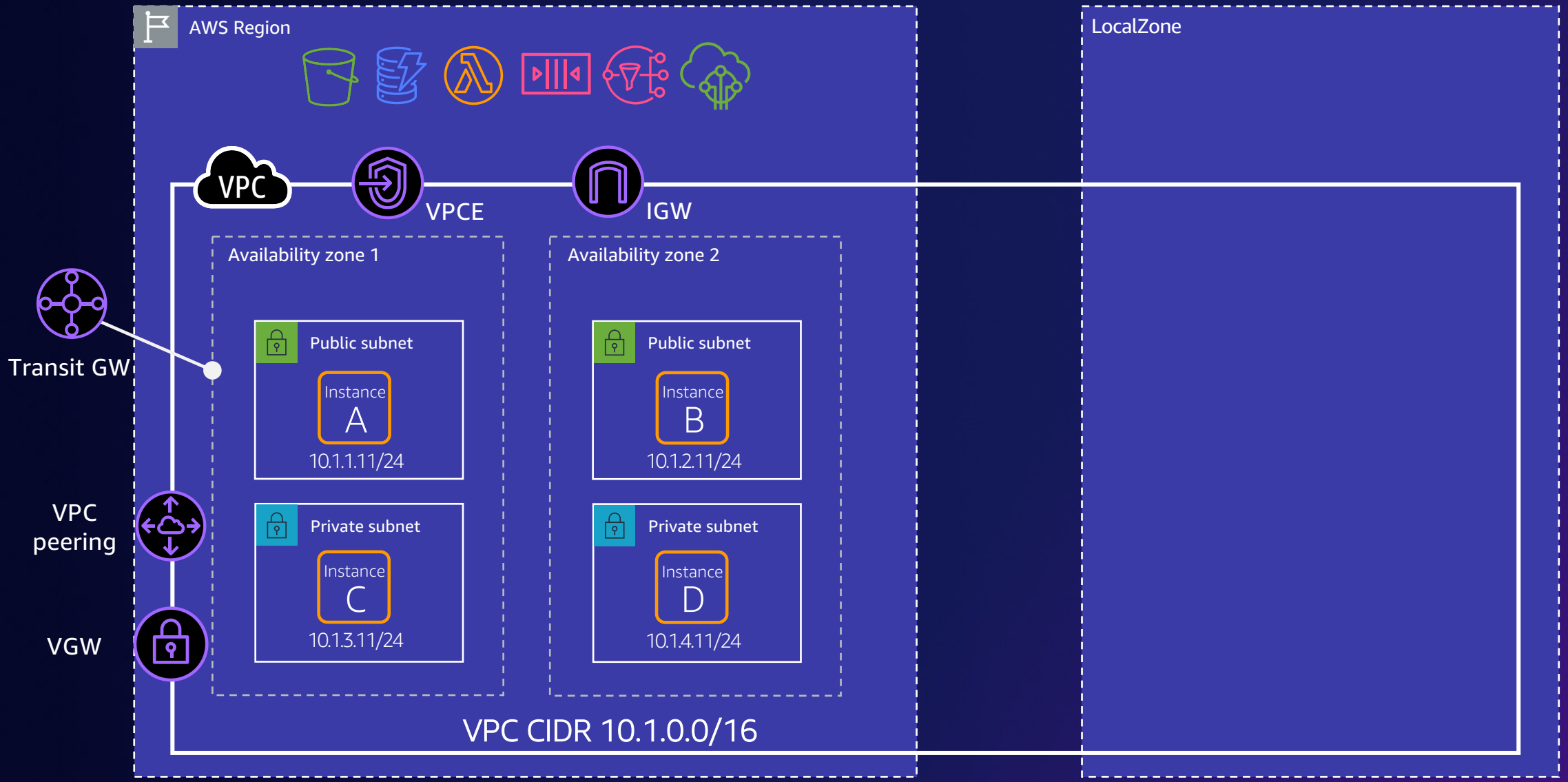
Edge Architectures…

- Extend the AWS region closer to the target location
  - Metro area for Local Zones
  - Carrier network for Wavelength
  - Customer location for Outposts
- Reduce latency between a location and the compute resources
  - You **CAN** break the laws of physics!
- Create emergent benefits
  - Data locality or residency
  - Easing migration
  - Reducing on-premises operational overheads

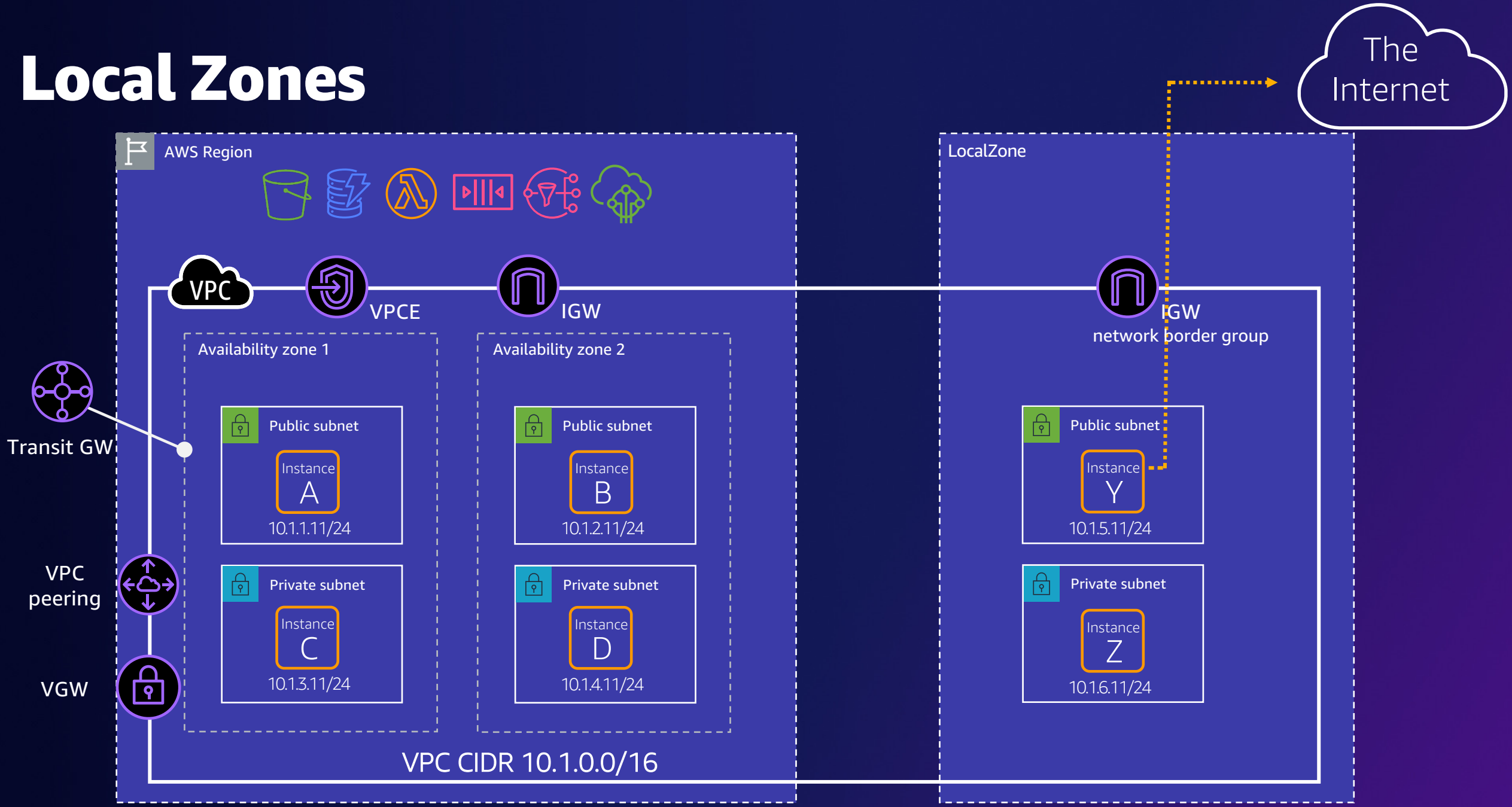
My region can



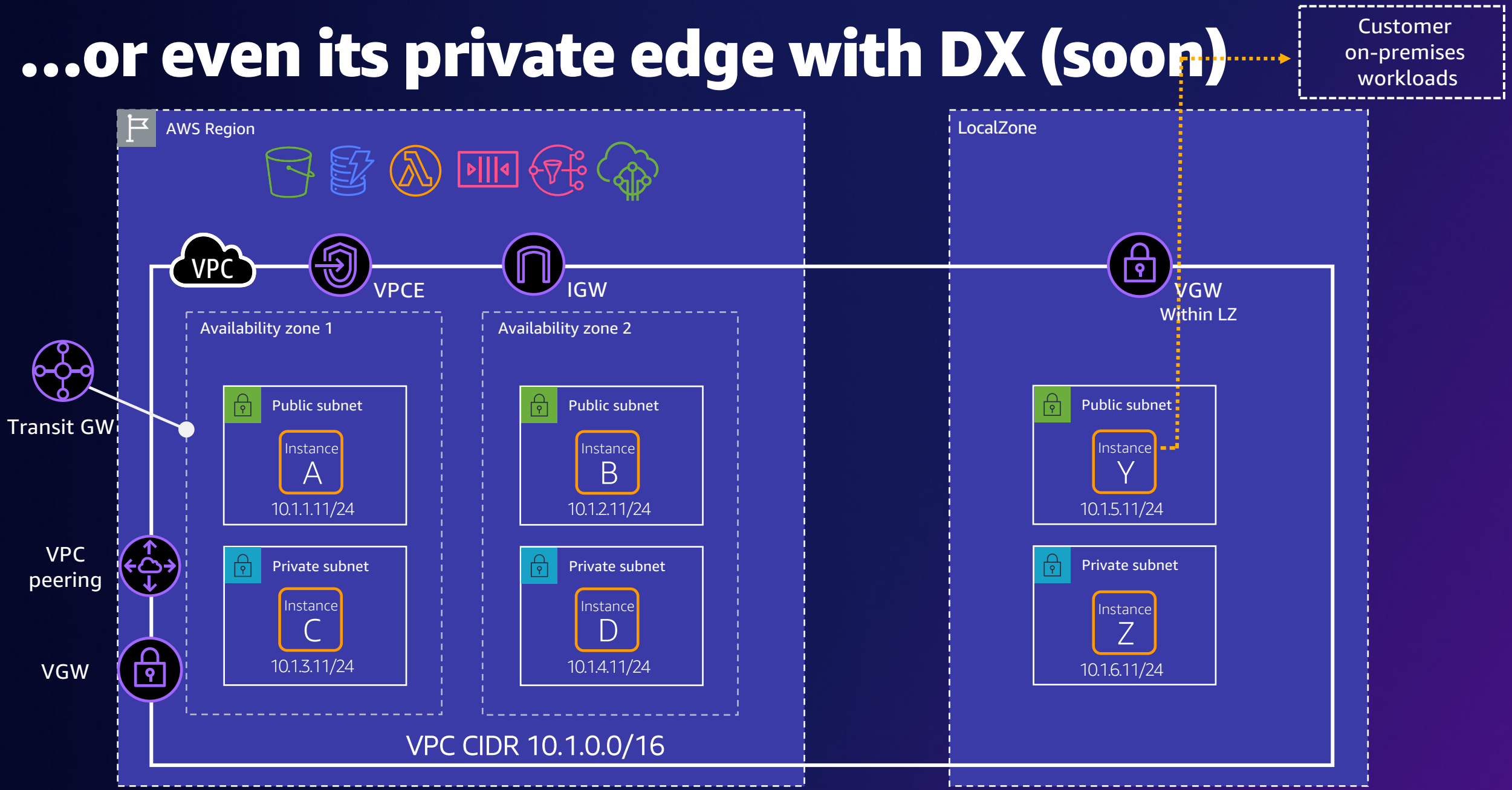
My region can extend its public edge with…



Local Zones



...or even its private edge with DX (soon)



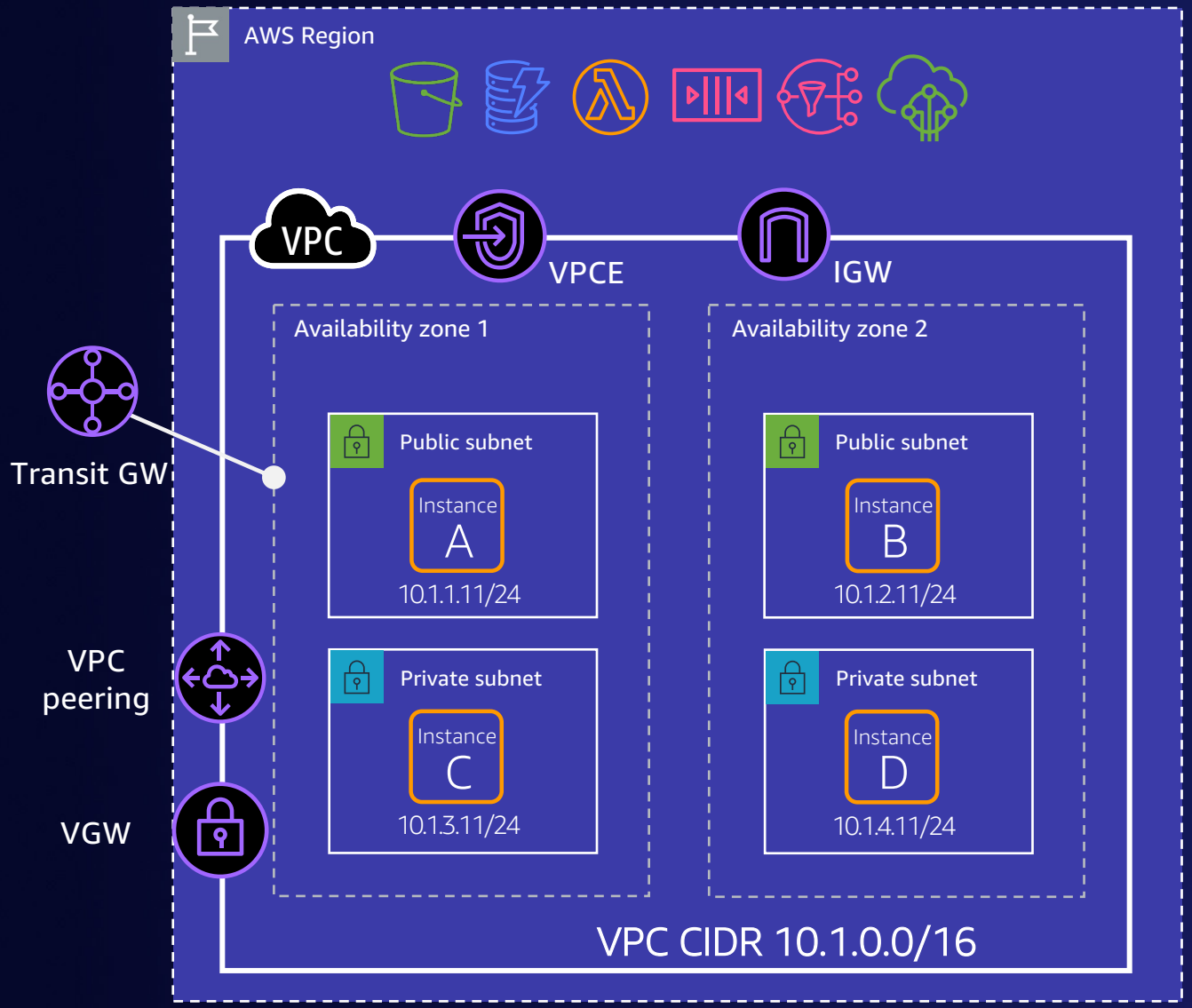
Local Zone Customers

- Supercell
  - MMO gaming needs sub-50ms latency for good game experience
  - Already make use of many regions worldwide
  - Making use of Local Zone to give similar latency in US central
  - Looking at Local Zone international expansion for the same results

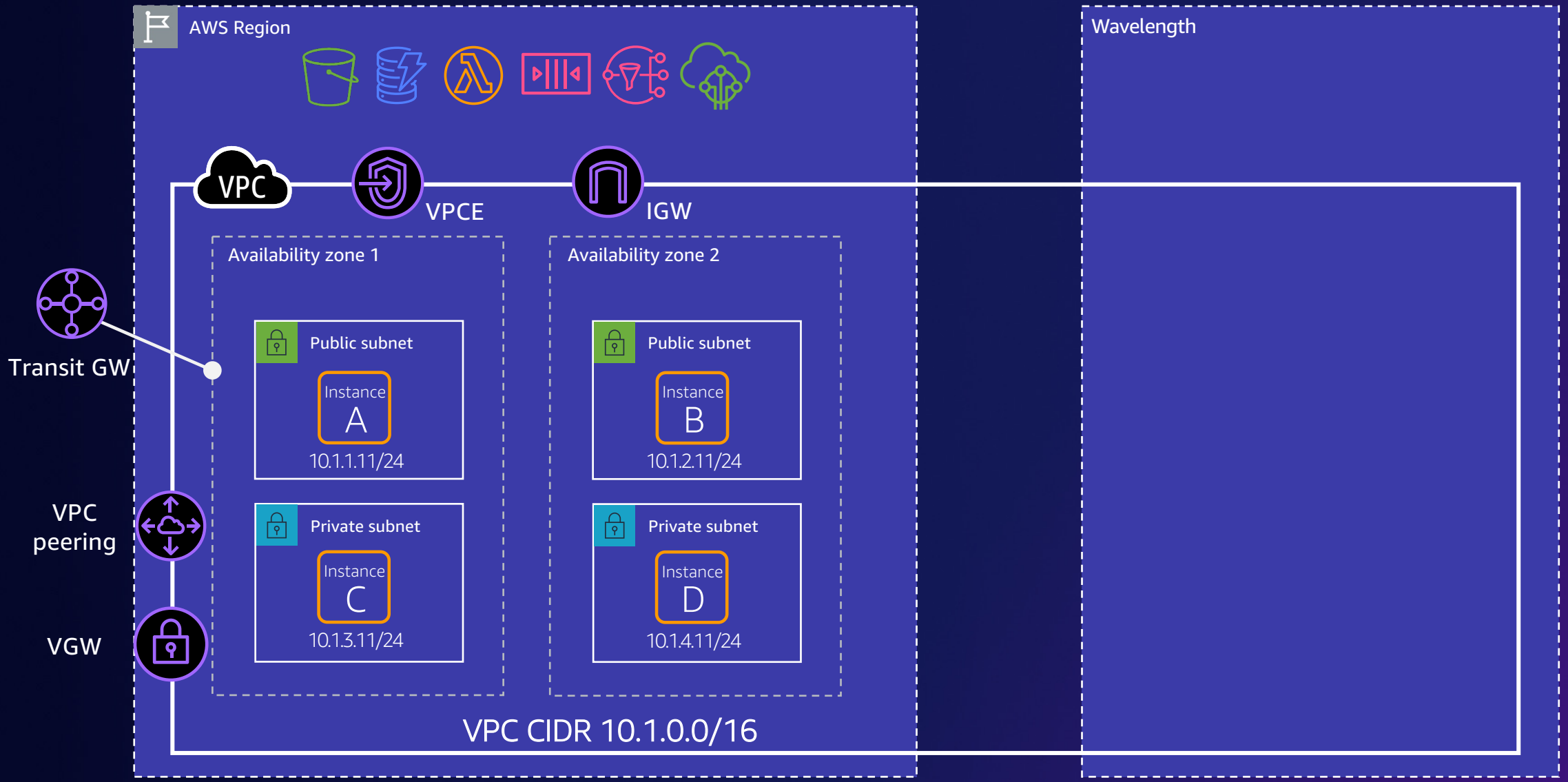
- JackTrip Labs
  - Live music streaming globally
  - Audio latency is key for smooth experience
  - Local Zones used in the US for live performance experience in real-time
  - International expansion gives the chance to reach a much wider audience

“But Local Zones are not closer to mobile 5G networks”

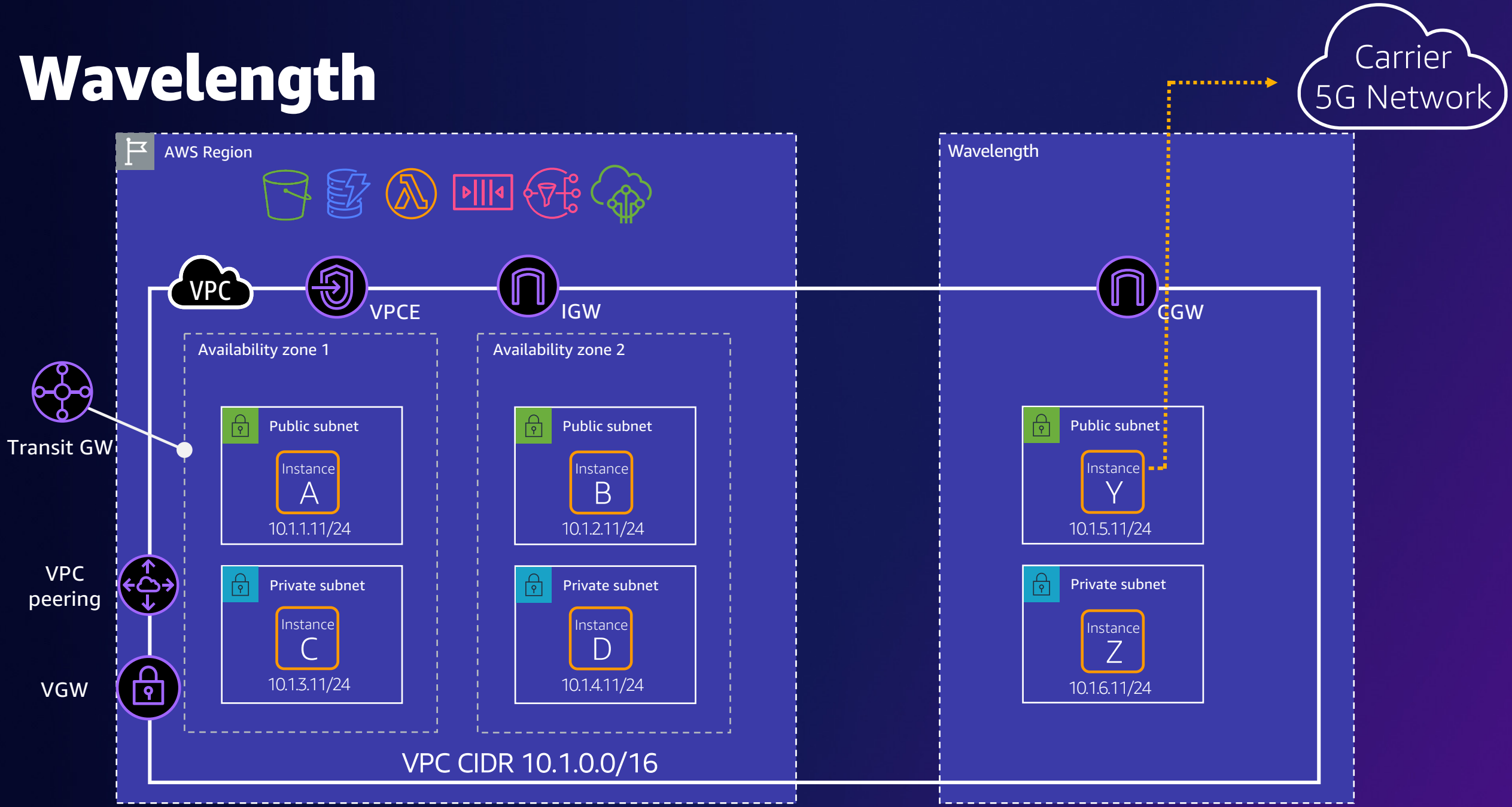
My region can



My region can extend into a 5G network with...



Wavelength



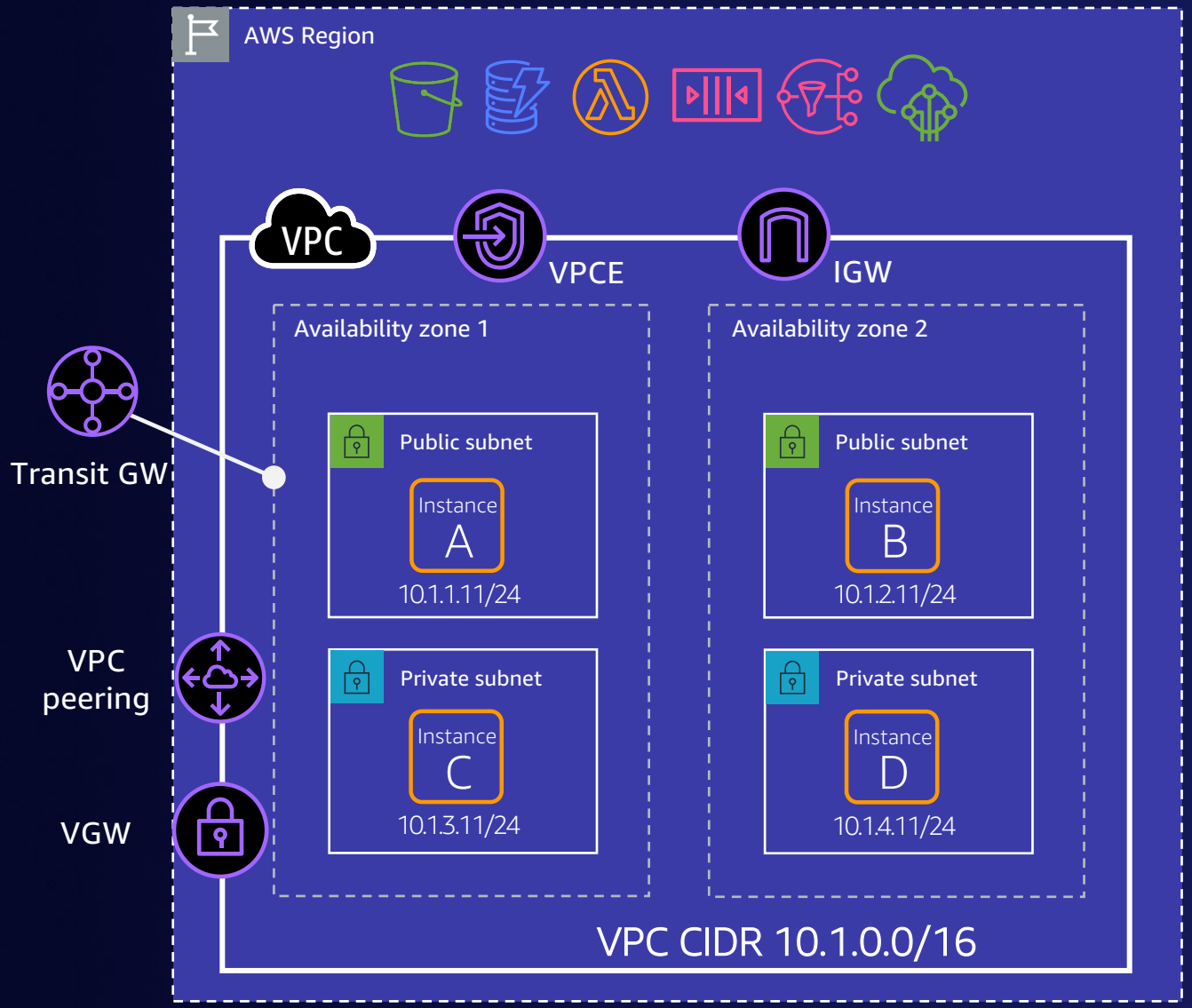
Wavelength Customers

- Aurrigo
  - UK-based autonomous vehicle solution
  - Uses Vodafone 5G to reduce latency from vehicle to instance to 20-30ms
  - Allows for remote supervision and first-person video feeds
  - Delivers highly accurate location and speed data
  - Can be combined with fixed cameras to provide better road awareness for AI

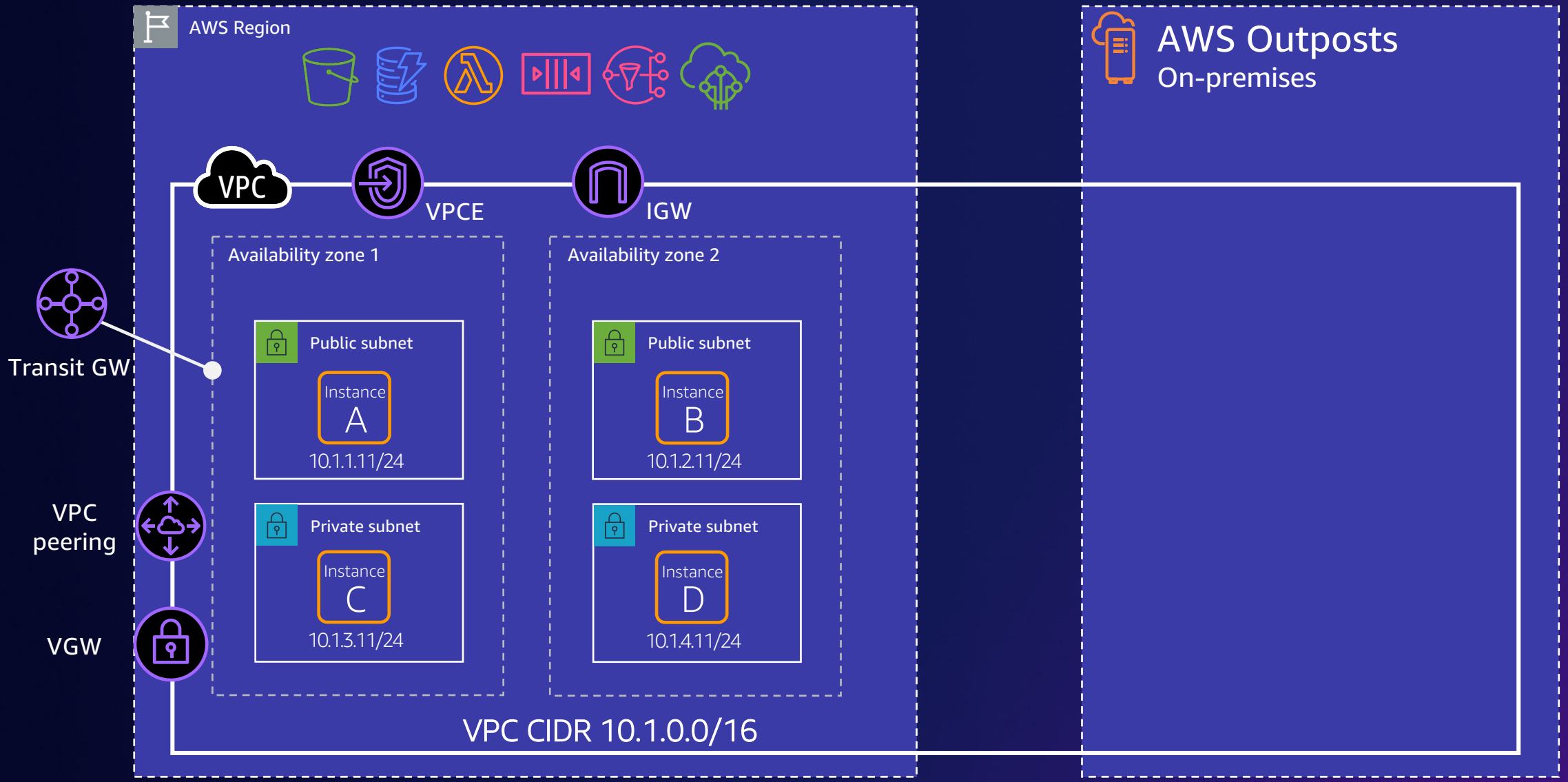
- Net4
  - London-based video analytics company, using AI for workplace safety
  - 5G allows flexibility of location, and high quality video to improve recognition
  - Removes the need for cameras to be connected into company network

“But Local Zones and Wavelength are still at an AWS chosen location”

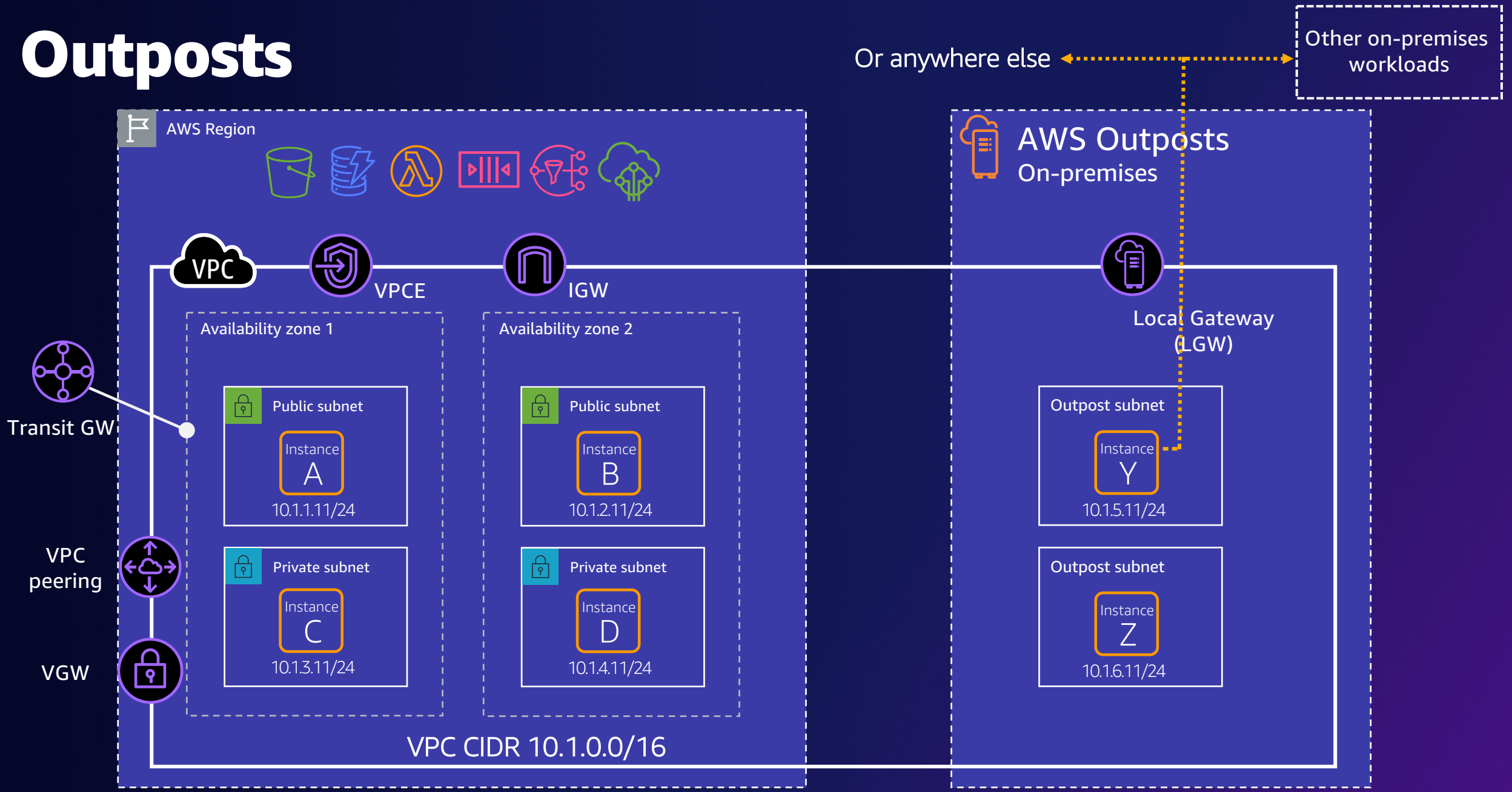
My region can



My region can extend to any location with...



Outposts

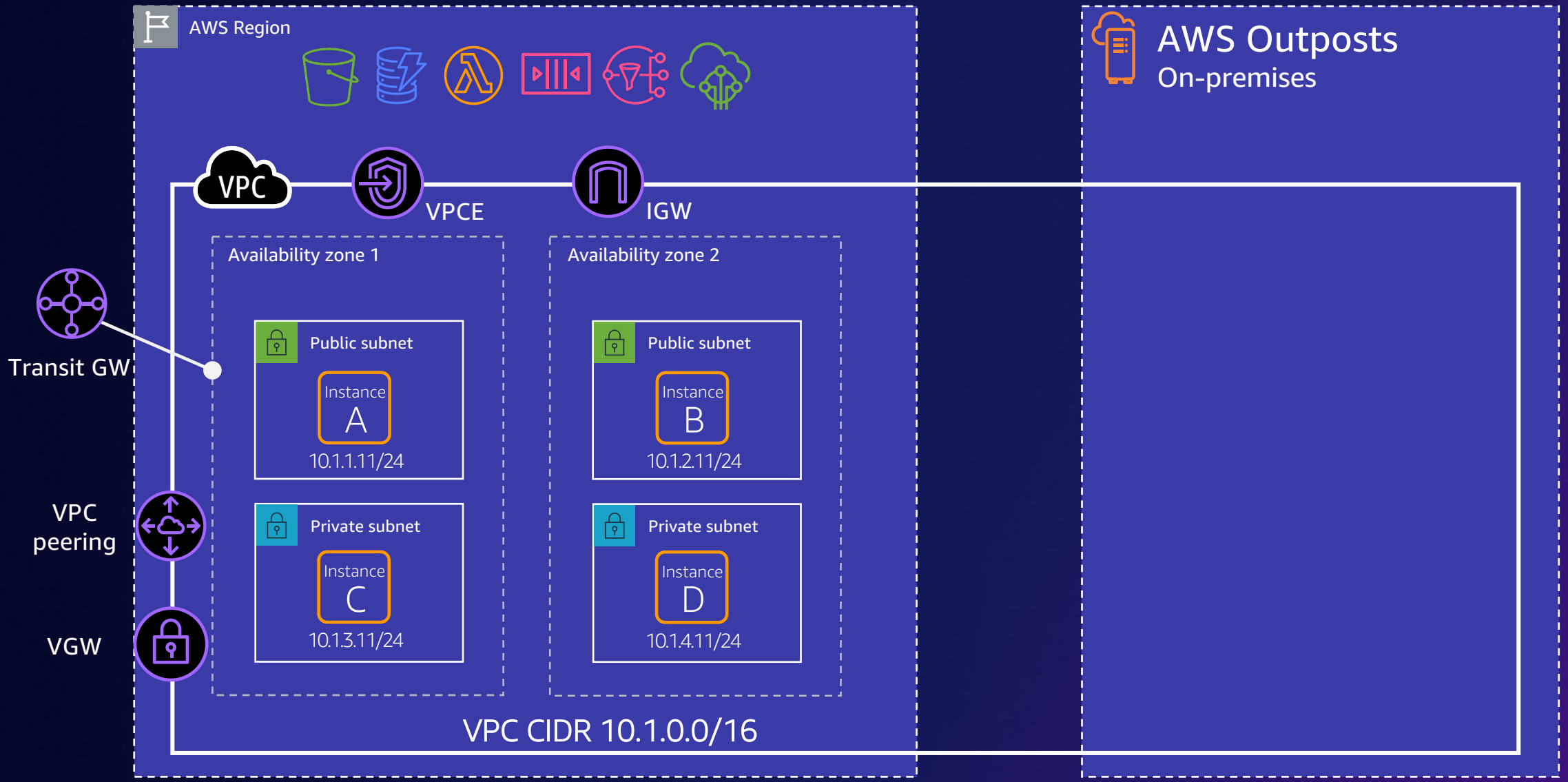


Outposts Customers

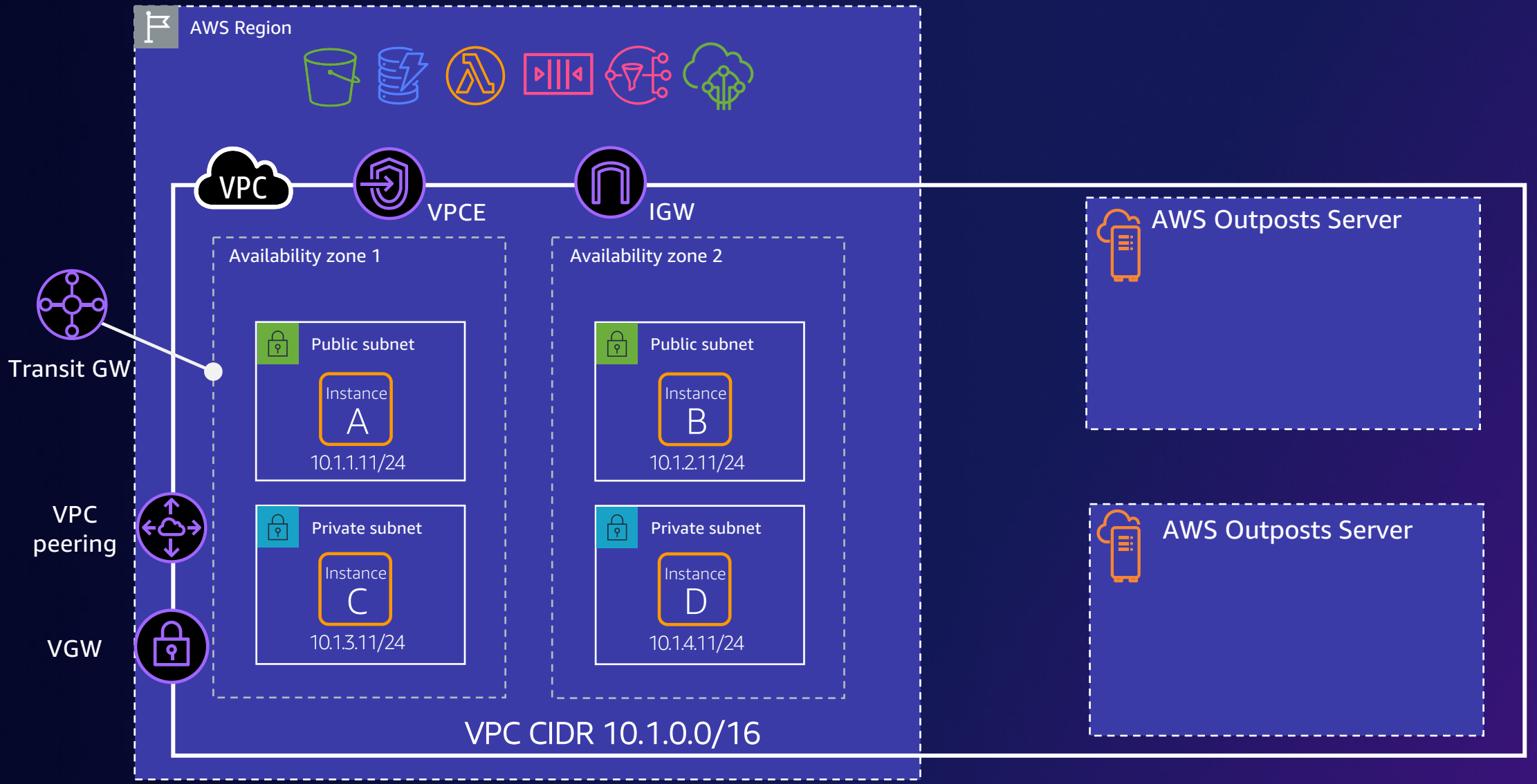
- Morningstar
  - Financial services company looking to do large scale migration
  - Concerns around latency between on-premise data stores and cloud native workloads
  - Remove dependencies on location of compute as migration progresses
  - Reduction of latency by moving EC2 on-premises allows focus on migration, not solving problems that will disappear as part of the program

“But a rack-based solution doesn’t work for my environment”

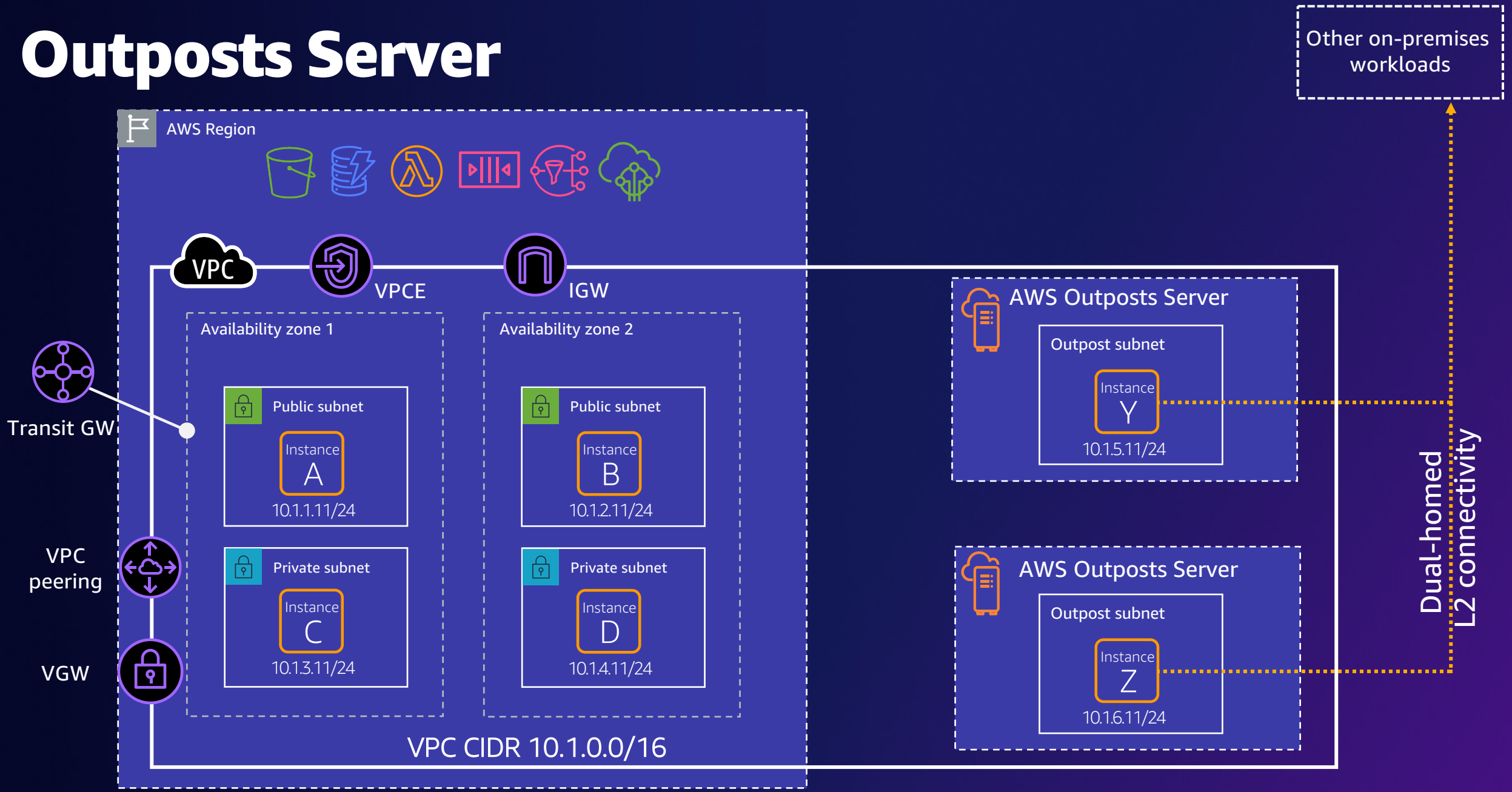
Rather than one large on-premises location…



My region can extend to many locations with...



Outposts Server



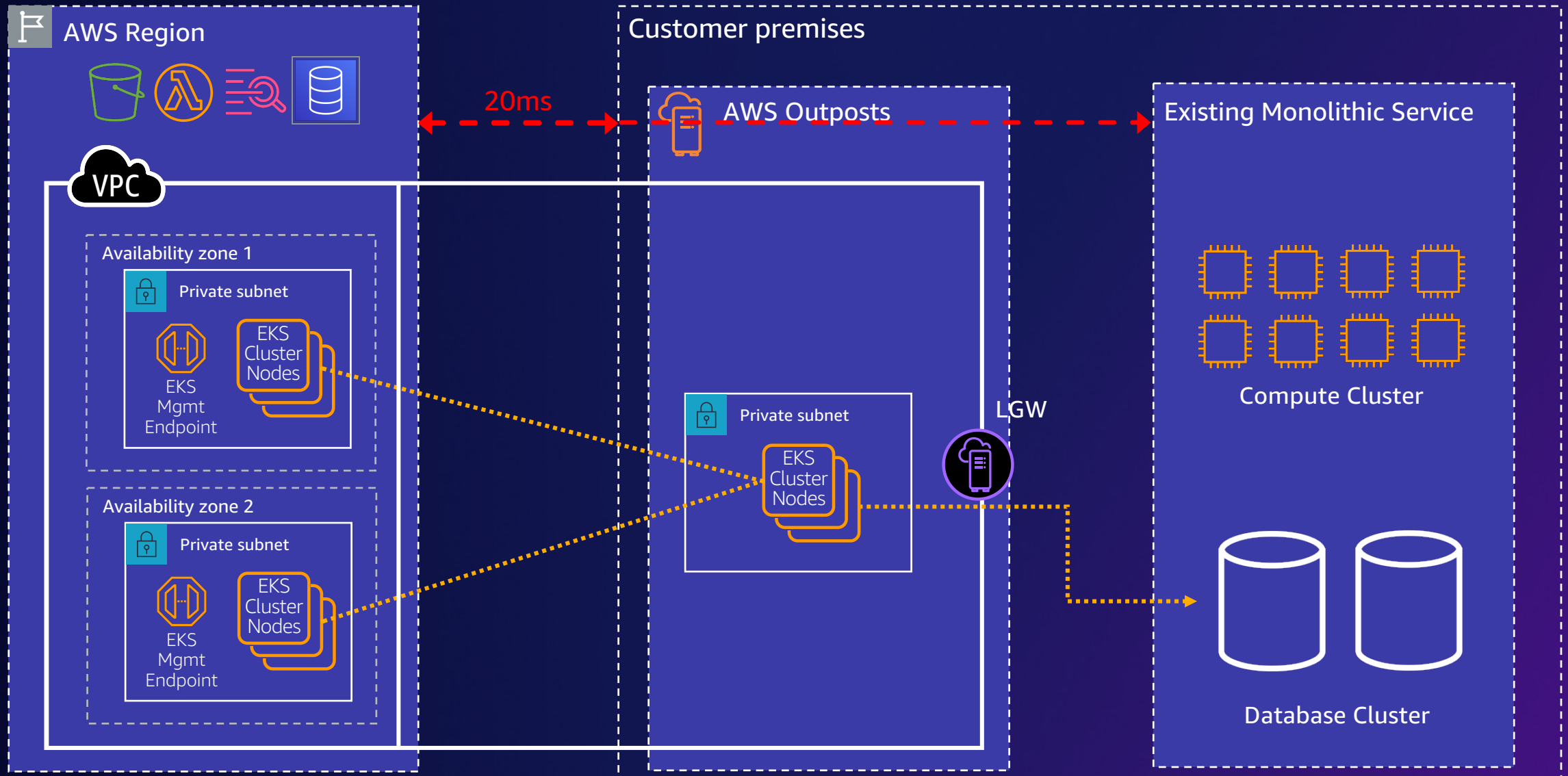
Outposts Server Use Cases

- Retail customers with many hundreds of locations
  - Provide local compute for POS systems and security footage
  - Tight integration with regional services without dependency on high internet bandwidth
  - Small footprint for bank branches, fast food outlets, airport kiosks etc.

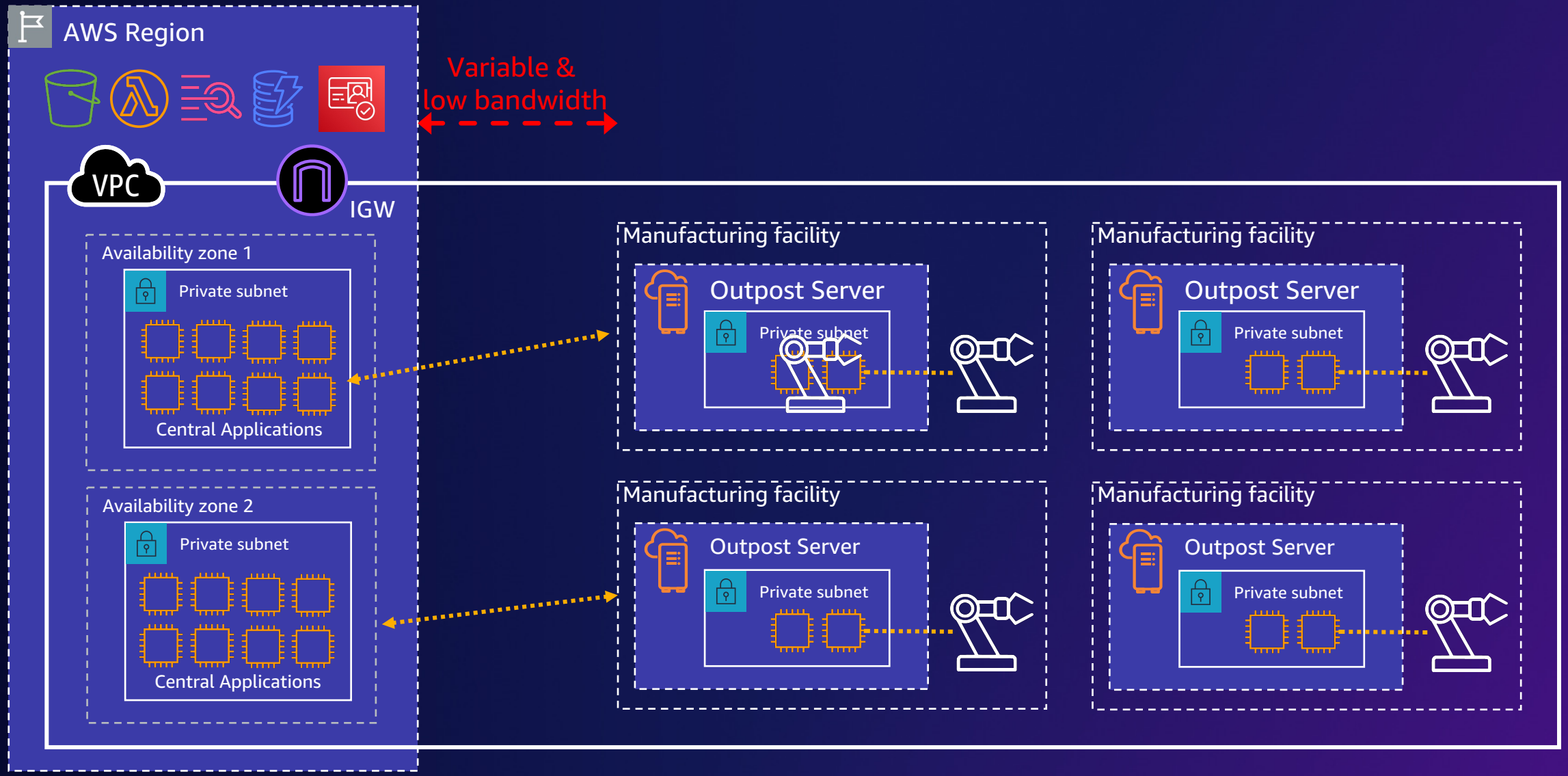
- Manufacturing facilities with limited bandwidth connectivity
  - Provides local compute for SCADA or IoT systems, with low latency response
  - Tight integration with regional services without dependency on high internet bandwidth
  - Format more appropriate for “machine room” rather than “data centre”

Real world examples…

Latency and application modernization



Remote manufacturing facilities



What Next?

What is the cloud continuum about?

- Extending the edge of AWS closer to you
- Resolving problems caused by the speed of light
- Letting AWS deal with the undifferentiated heavy lifting

Focus on three questions

- Why not in region?
- What am I trying to achieve or resolve?
- How little can I put at the edge?

Thank you!

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Perry Wald

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Join us on Tuesday May 17th

12:00 – 13:00 BST

In depth overview of AWS Hybrid Services

Scan here to RSVP on line

Please complete the session survey