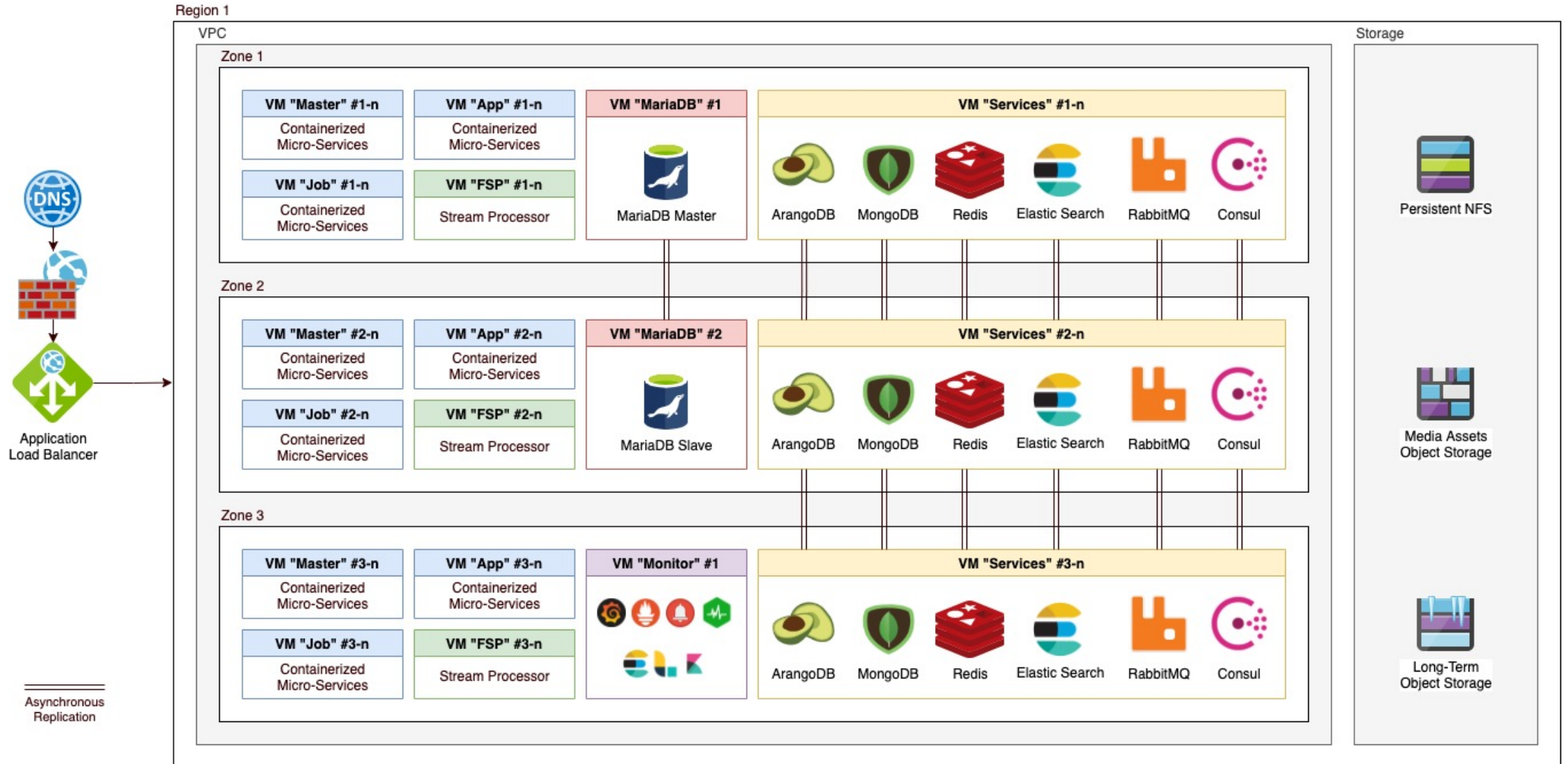# Dalet Flex:
Infrastructure Reference Design

August 2022 – v1.0
CS Cloud Operations

Flex Reference Agnostic Infrastructure

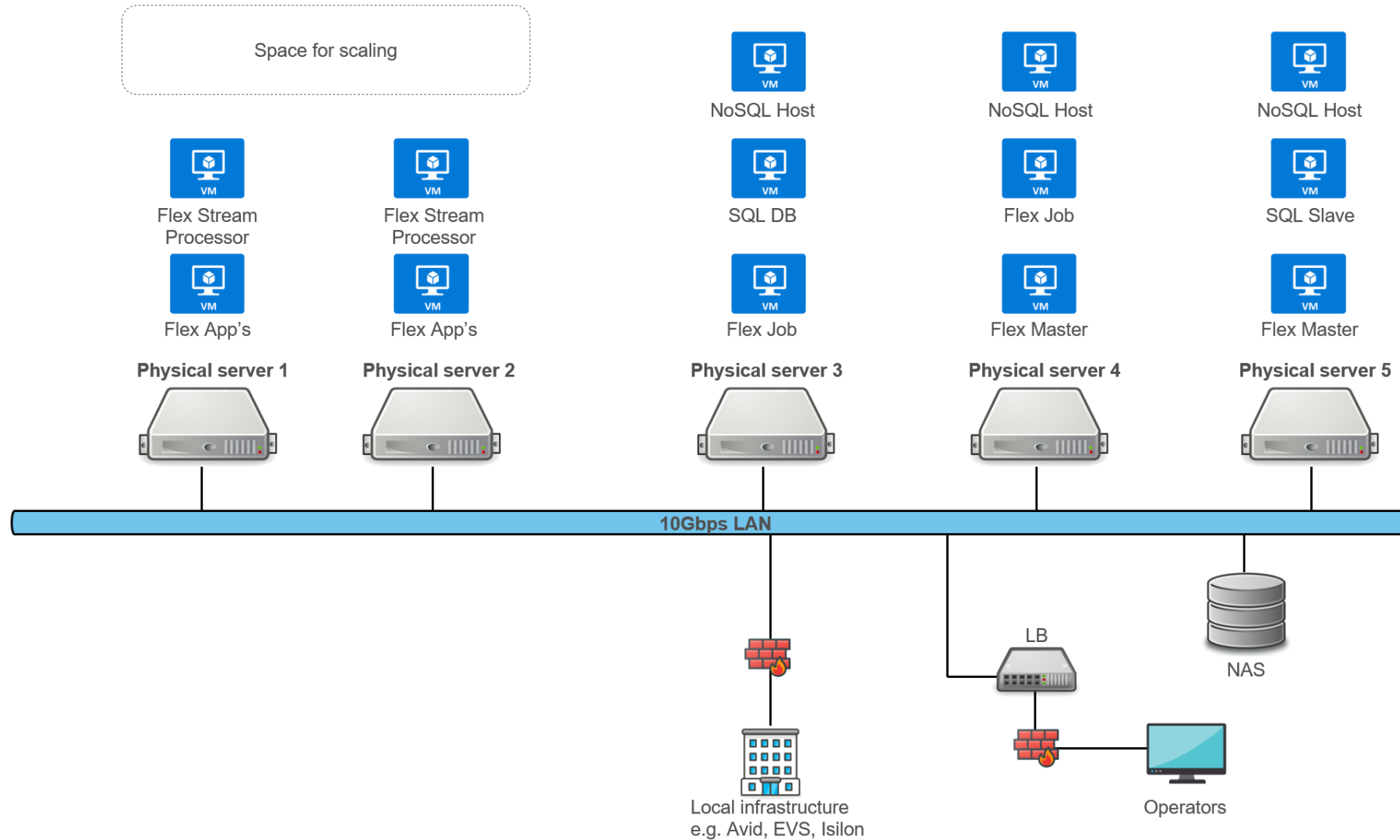# Flex IaaS Reference Design Overview (1/2)

Category	Feature	On-Premises	AWS	GCP	Azure
Network	DNS	Route53	Route53	Cloud DNS	Route53
	Load-Balancer	2+ HAProxy VMs	ELB (ALB)	Cloud Load Balancing	Application Gateway
	High-Availability	Multiple Racks	3+ Availability Zones (AZ)	3+ Zones	Availability Sets + Availability Zones
Security	Firewall	*Third-Party*	Security Groups	VPC Firewall Rules	Network Security Groups (NSG)
	SSL Certificates	Let's Encrypt Or customer provided	Let's Encrypt, Amazon issued, Or customer provided	Let's Encrypt Or customer provided	Let's Encrypt Or customer provided
Computing	Generic	Bare-Metal or Virtual Machines	EC2	GCE	Virtual Machines
	Transcoding (*opt*)	Bare-Metal or Virtual Machines	EKS	GKE	Virtual Machines

Flex IaaS Reference Design Overview (2/2)

Category	Feature	On-Premises	AWS	GCP	Azure
Storage	Distributed FS	NFS over NAS / SAN	EFS	Filestore	Files
	Data		S3	Cloud Storage	Blob Storage
	Long-Term		Glacier	Cloud Storage for data archiving	Storage archive access tier
Databases	MariaDB	Master/Slave Self-Managed Cluster	RDS	Cloud SQL or Master/Slave Self-Managed Cluster	Database for MariaDB or Master/Slave Self-Managed Cluster
	ArangoDB	3+ Nodes Self-Managed Cluster			
	MongoDB	3+ Nodes Self-Managed Cluster (Primary + Secondaries)			
	Redis	3+ Nodes Self-Managed Cluster with Sentinel			
	Elastic Search	3+ Nodes Self-Managed Cluster			
	RabbitMQ	3+ Nodes Self-Managed Cluster			
	Consul	3+ Nodes Self-Managed Cluster			

Flex On-Premises Reference Design

Space for scaling

NoSQL Host

NoSQL Host

NoSQL Host

Flex Stream Processor

Flex Stream Processor

SQL DB

Flex Job

SQL Slave

Flex App's

Flex App's

Flex Job

Flex Master

Flex Master

Physical server 1

Physical server 2

Physical server 3

Physical server 4

Physical server 5

10Gbps LAN

LB

NAS
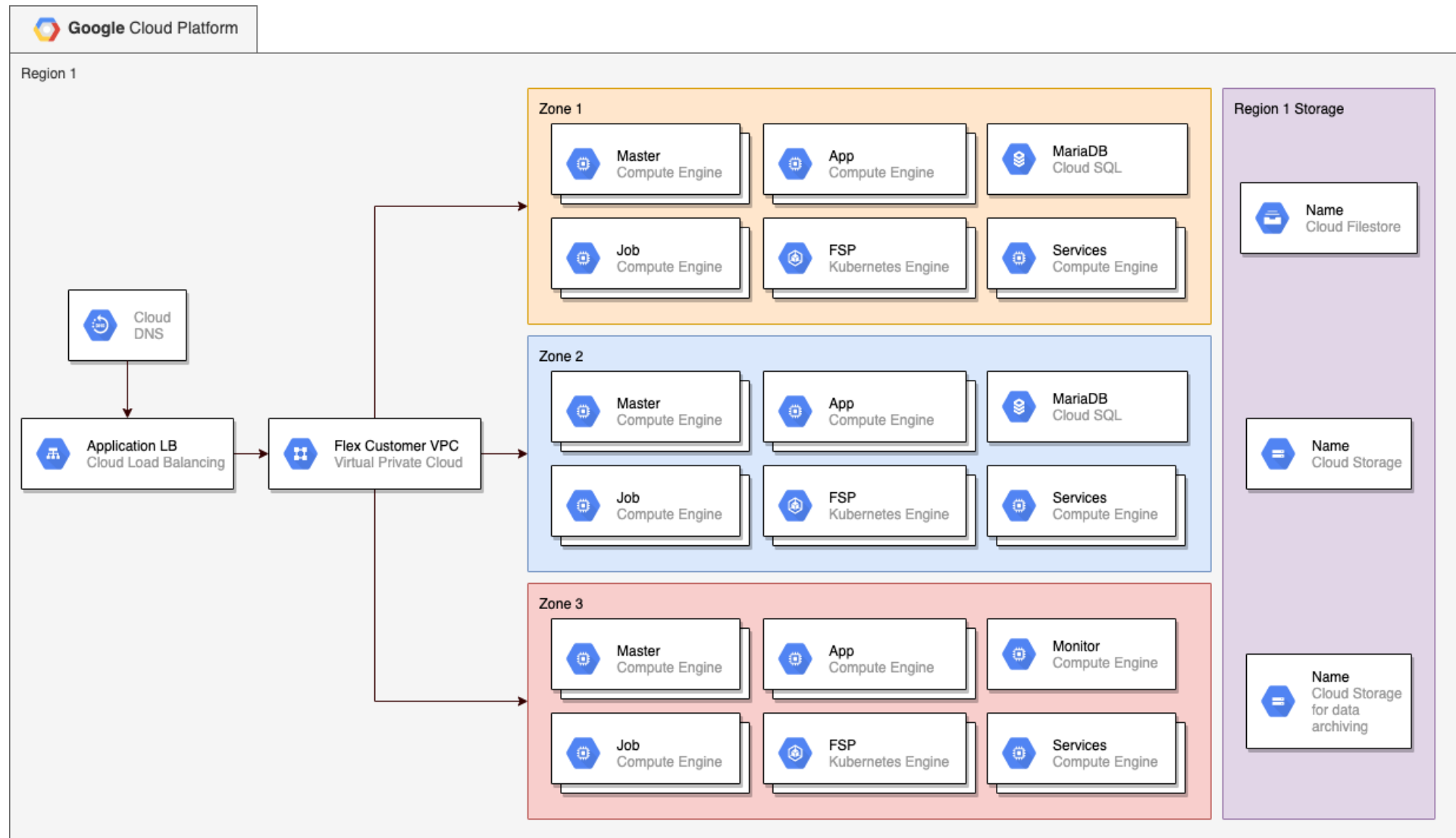
Local infrastructure
e.g. Avid, EVS, Isilon
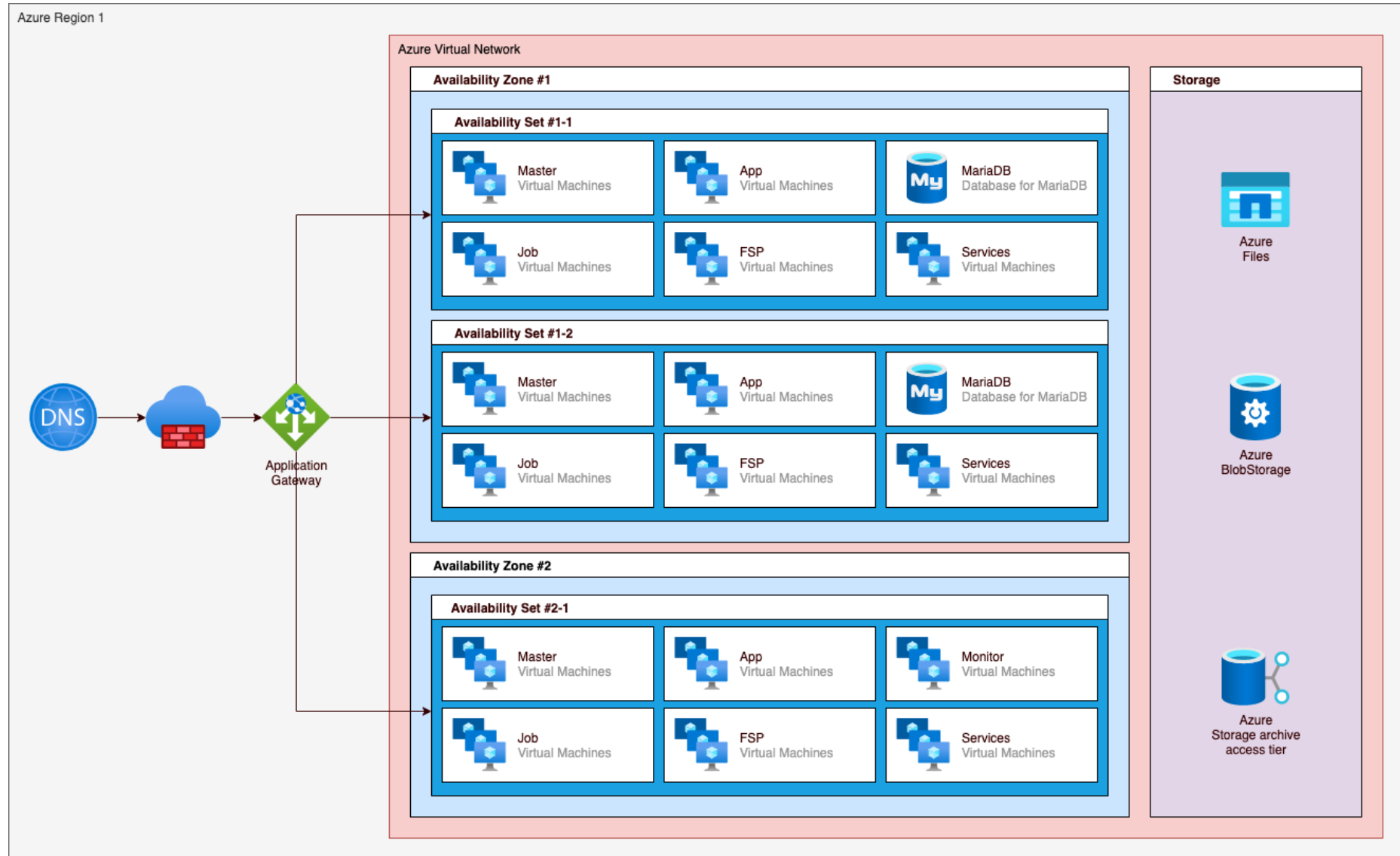
Operators

Flex AWS Reference Design
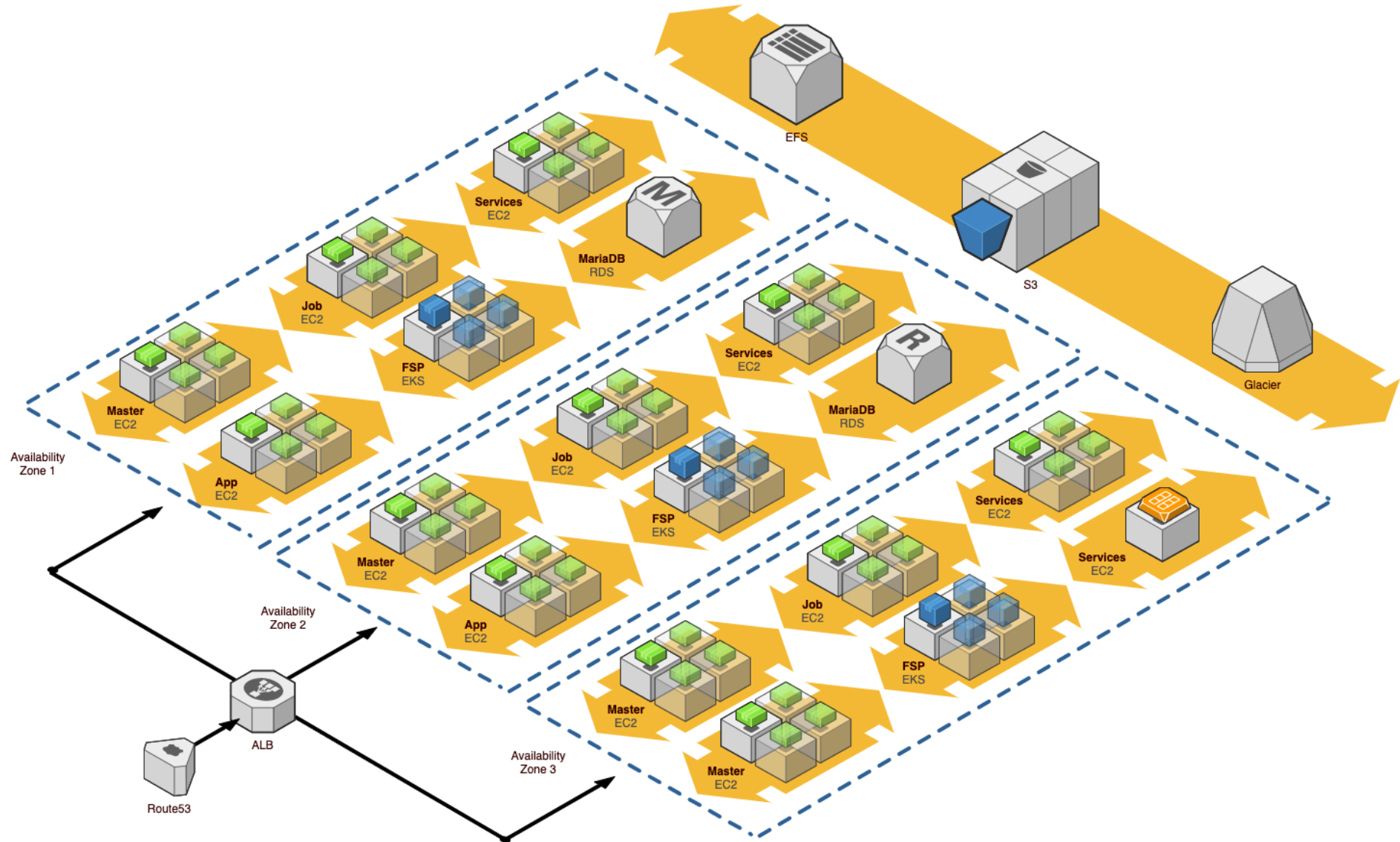
Flex GCP Reference Design

Flex AZURE Reference Design

dalet

Thank you.