



# Dalet Pyramid: Infrastructure Reference Design

August 2022 – v1.0  
CS Cloud Operations



# Pyramid Infrastructure Overview

## › **Cloud-Native Kubernetes Computing:**

- Multi-AZ Cluster (3+ resilient worker nodes, up to 33% fault-tolerance)
- Distributed workload resilience through anti-affinity mechanisms.
- Elastic scalability through cost-effective ephemeral instances.
- Holds ephemeral data only

## › **External as-a-service Storage:**

- Resilient Kubernetes-CSI-compatible block storage for data volumes.
- Resilient, scalable, highly-available databases.
- Distributed resilient Object Storage for Media assets.

## › **Cloud Network:**

- TLS-secured ingress/egress public transit
- VPN-secured hybrid network routing for hybrid private on-prem to/from Cloud connectivity.

# Pyramid IaaS Reference Design Overview

Category	Feature	On-Premises	AWS	GCP	Azure
Network	DNS	Route53	Route53	Cloud DNS	Route53
	Load-Balancer	2+ HAProxy VMs	NLB	Cloud Load Balancing	Application Gateway
	High-Availability	Multiple Racks	3+ Availability Zones (AZ)	3+ Zones	Availability Sets + Availability Zones
Security	Firewall	<i>Third-Party</i>	Security Groups	VPC Firewall Rules	Network Security Groups (NSG)
	SSL Certificates	Let's Encrypt Or customer provided	Let's Encrypt, or customer provided	Let's Encrypt Or customer provided	Let's Encrypt Or customer provided
Computing	Generic	Self-Managed Kubernetes	EKS	GKE	AKS
Storage	Block Storage	CSI-Compatible Backend	EBS	Filestore	Files
	Media Assets	NAS/SAN	S3	Cloud Storage	Blob Storage
Databases	SQL	Active/Passive Self-Managed Cluster	RDS	Cloud SQL	SQL Database

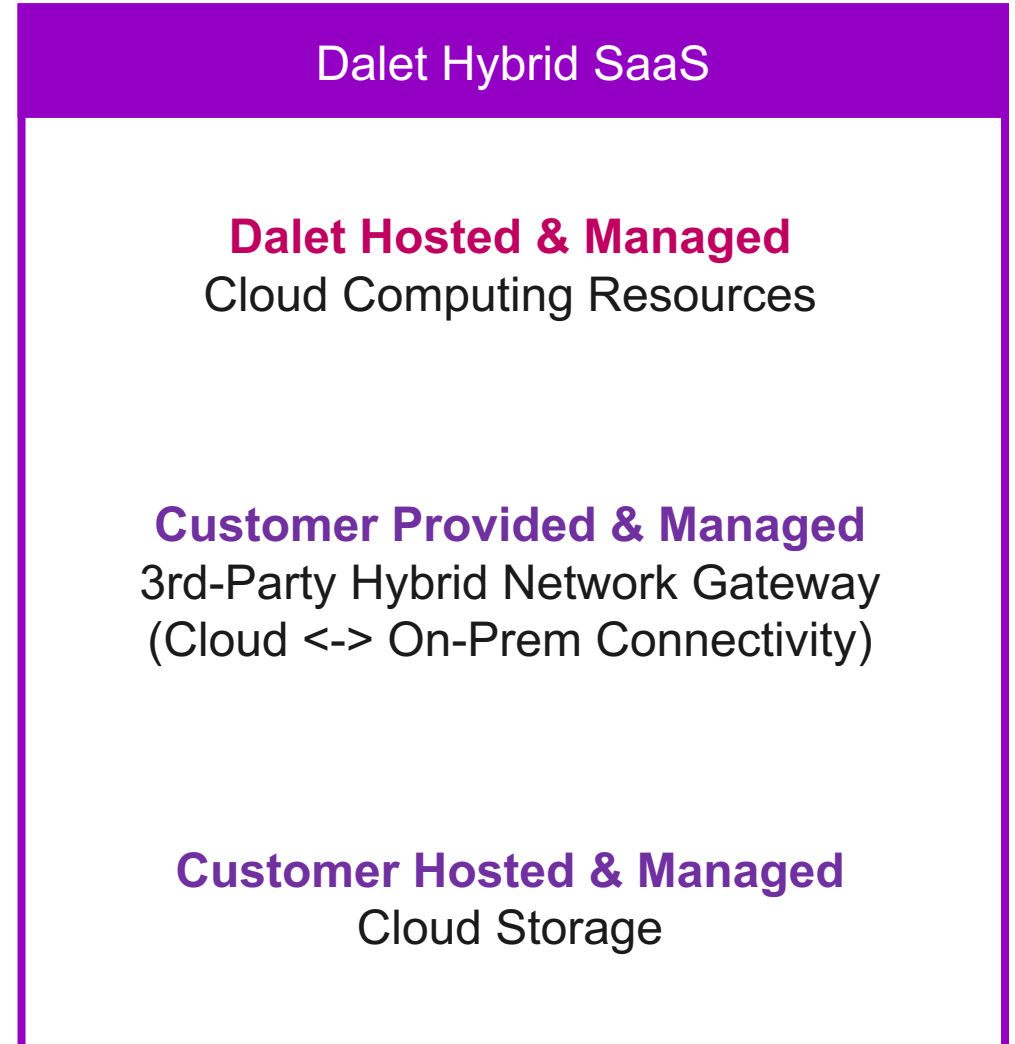
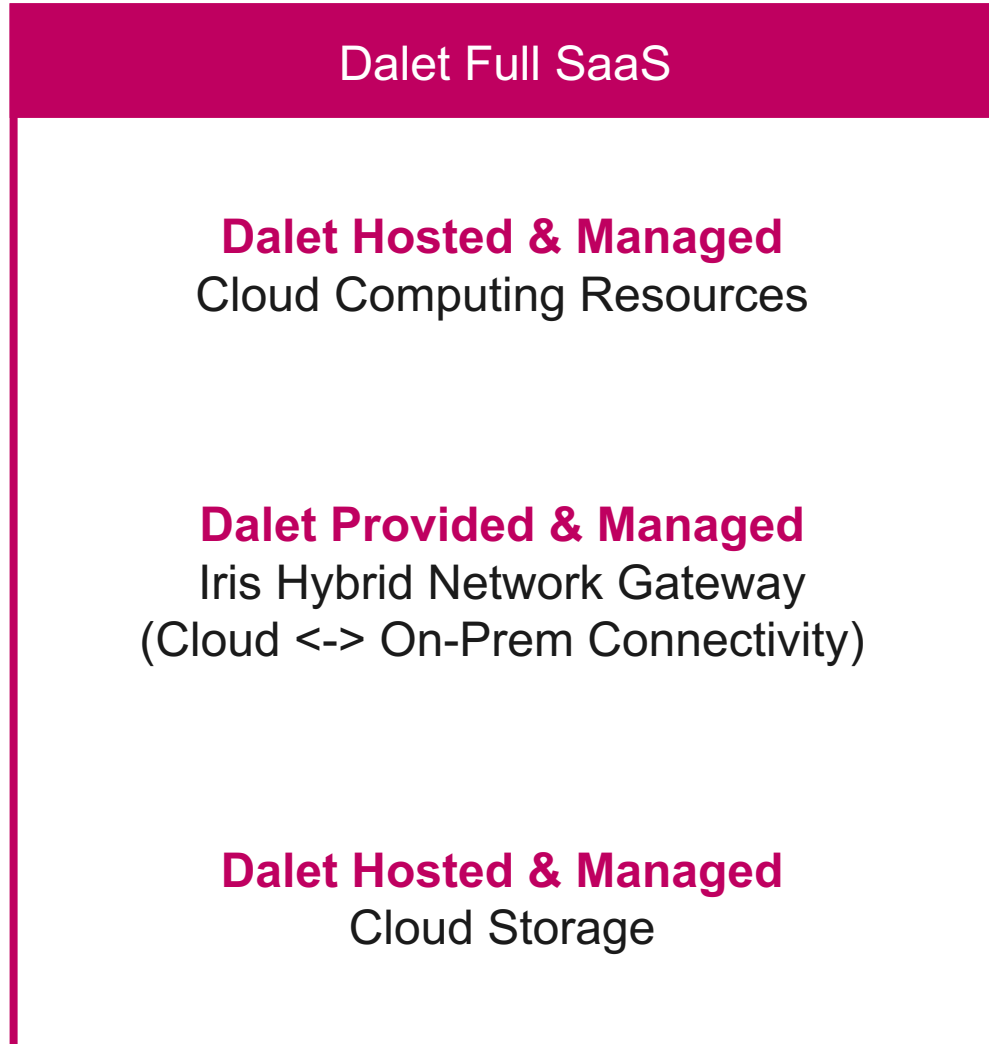
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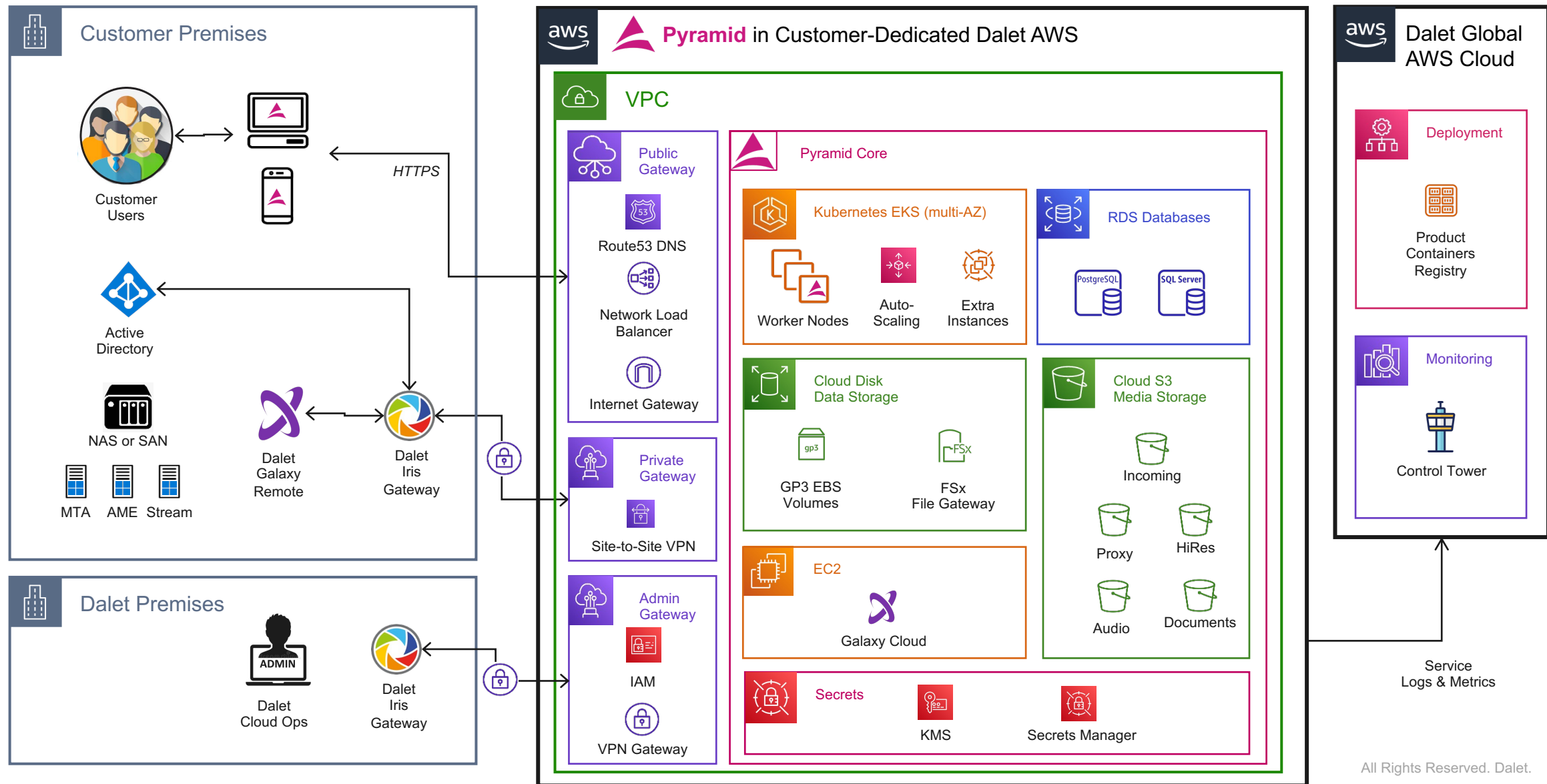
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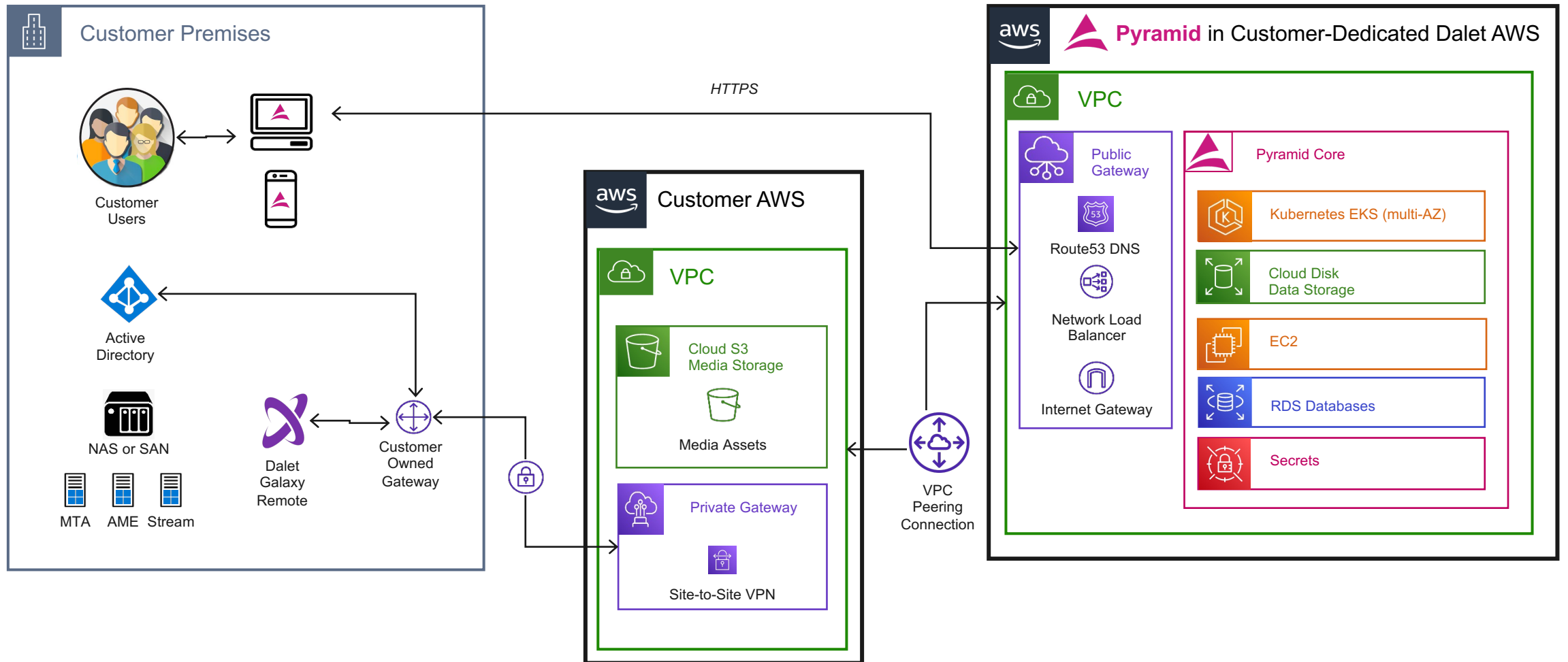
# Pyramid Reference Infrastructure



# Pyramid Reference Infra (Dalet Full SaaS)

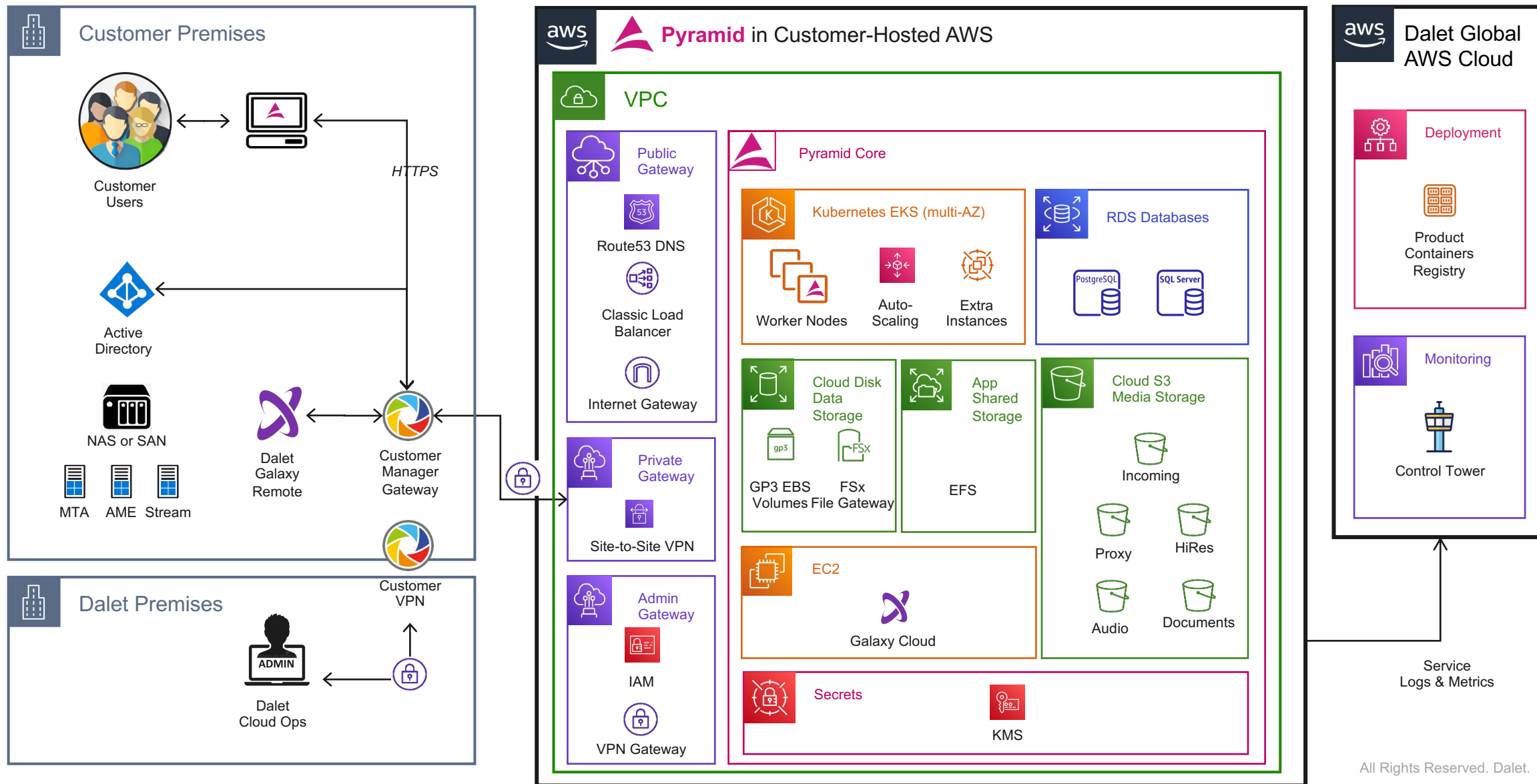


# Pyramid Reference Infra (Dalet Hybrid SaaS)



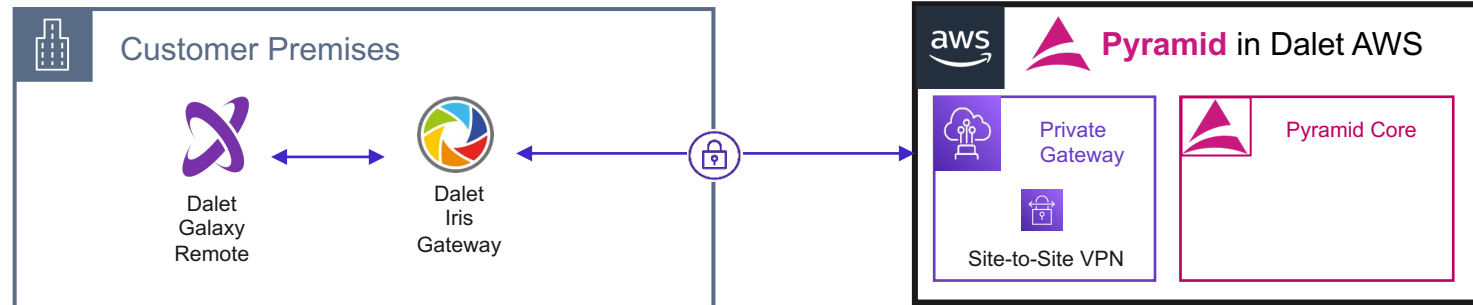


# Customer Hosted – Private Mode



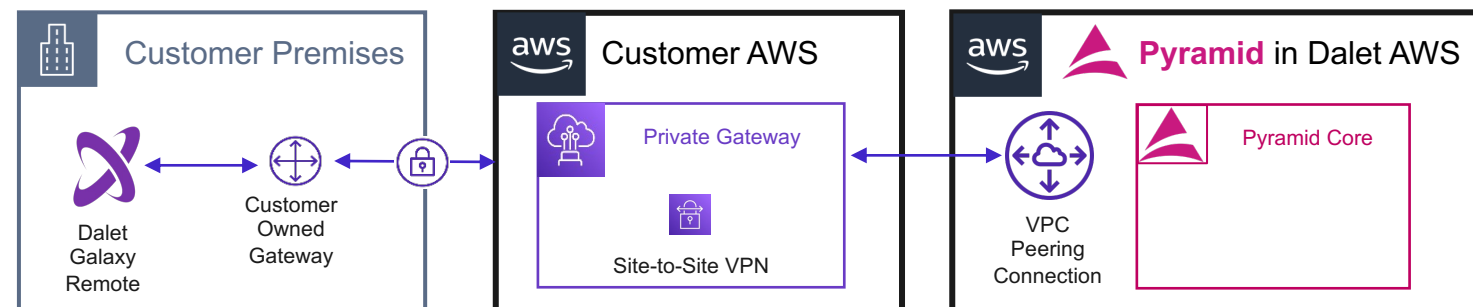
# Hybrid Networking Options

## Option #1: Dalet Full SaaS



- ✔ Networking fully offloaded to Dalet
- ✔ Direct connection (best latency and throughput)
- ✔ Dalet's responsible for end-to-end SLA
- ✘ Requires Dalet access to manage on-prem resources

## Option #2: Dalet Hybrid SaaS



- ✔ Customer keeps full control of network access
- ✔ Dalet doesn't need to access customer's private network.
- ✘ Additional network layer
- ✘ Shared end-to-end responsibility and incident management
- ✘ Possible AWS <-> AWS egress costs if multi-AZ HA is considered





Thank you.

