

## Services Integration: AWS Elastic Beanstalk, Amazon Elastic File System (Amazon EFS), and Amazon Simple Storage Service (Amazon S3)

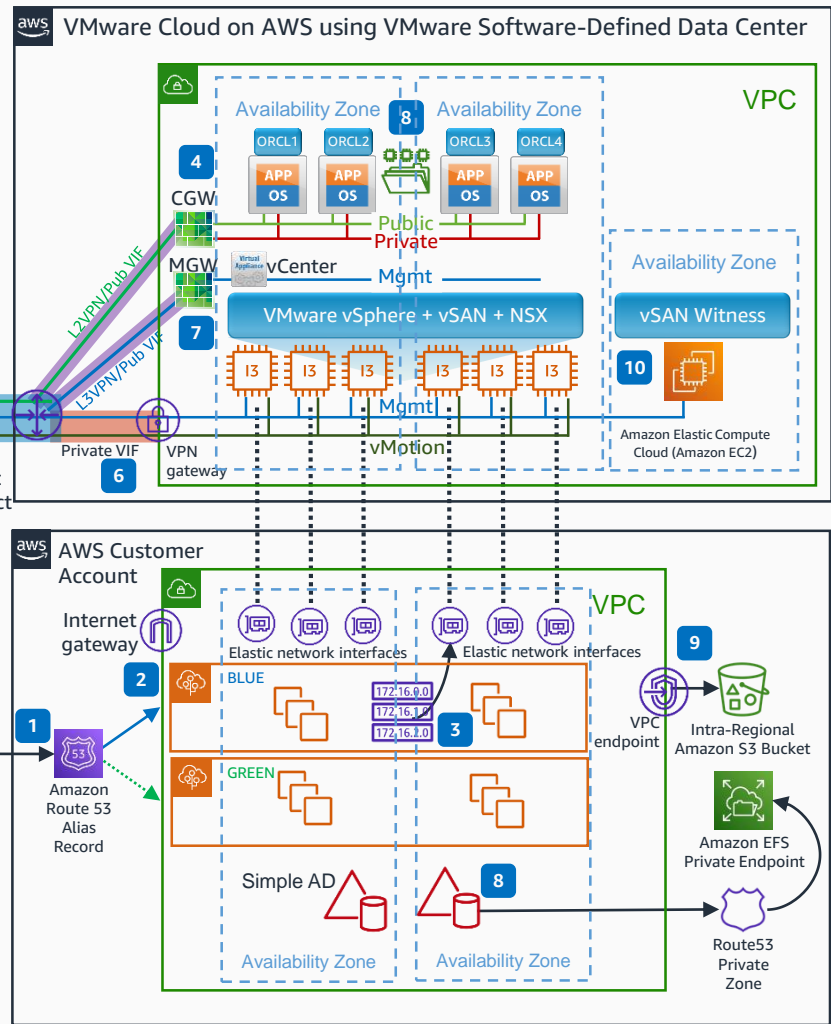
The diagram illustrates the VMware Cloud on AWS architecture, showing the connection between an On-premises data center and the VMware Cloud on AWS environment.

**On-premises data center:**

- Four application servers (ORCL1, ORCL2, ORCL3, ORCL4) running on APP OS are connected to a VMware vSphere Distributed Switch.
- Three ESXi hosts are connected to the vSphere Distributed Switch.
- A vCenter server manages the ESXi hosts and applications.
- An NSX Edge Appliance (5) is connected to the vCenter and the Customer Router.

**VMware Cloud on AWS using VMware Software-Defined Data Center:**

- The architecture is deployed within a VPC (Virtual Private Cloud) across multiple Availability Zones (AZs).
- Key components include:
  - CGW (Cloud Gateway):** Connects the VPC to the Internet.
  - MGW (Management Gateway):** Connects the VPC to the On-premises data center.
  - VMware vSphere + vSAN + NSX:** The core VMware infrastructure running on AWS.
  - vSAN Witness:** Ensures high availability for the vSAN storage.
  - Amazon Elastic Compute Cloud (Amazon EC2):** Hosts the VMware vCenter and other management components.
  - Private VIF (Virtual Interface):** Connects the On-premises data center to the VMware Cloud on AWS environment.
  - VPN gateway:** Provides secure connectivity between the On-premises data center and the VMware Cloud on AWS environment.
- The architecture is designed for high availability and scalability, with components distributed across multiple Availability Zones.



- 1 DNS requests are handled by **Amazon Route 53**, a highly available domain name system (DNS) service.
- 2 An alias record resolves to an active **AWS Elastic Beanstalk** environment: BLUE or GREEN.
- 3 Application servers natively communicate with **VMware Cloud on AWS** via VMware Cloud ENI route table entries.
- 4 VMware Compute Edge Gateway (CGW) maintains route table for all NSX Logical Networks via Cross Account Identity and Access Management Role.
- 5 NSX Logical Networks extended on-premises via Layer 2 VPN (L2VPN) between CGW and an NSX Edge Appliance, routed over DX Public Virtual Interface providing support for Live vMotion.
- 6 VMware vmKernel Management + vMotion networks are routed over DX Private Virtual Interface.
- 7 Hybrid Linked Mode established between vCenter Servers via Layer 3 VPN (L3VPN), routed over DX Public Virtual Interface.
- 8 **Amazon Elastic File System (Amazon EFS)** is mounted in-guest for Archive Logs. The **Amazon EFS private endpoint** is resolved via Simple AD DNS recursion to **Amazon Route 53**.
- 9 Oracle Recovery Manager backups are securely written to **Amazon S3** via VPC Endpoint.
- 10 NSX Logical Networks span two **Availability Zones** with a vSAN Witness deployed into the third Availability Zone.