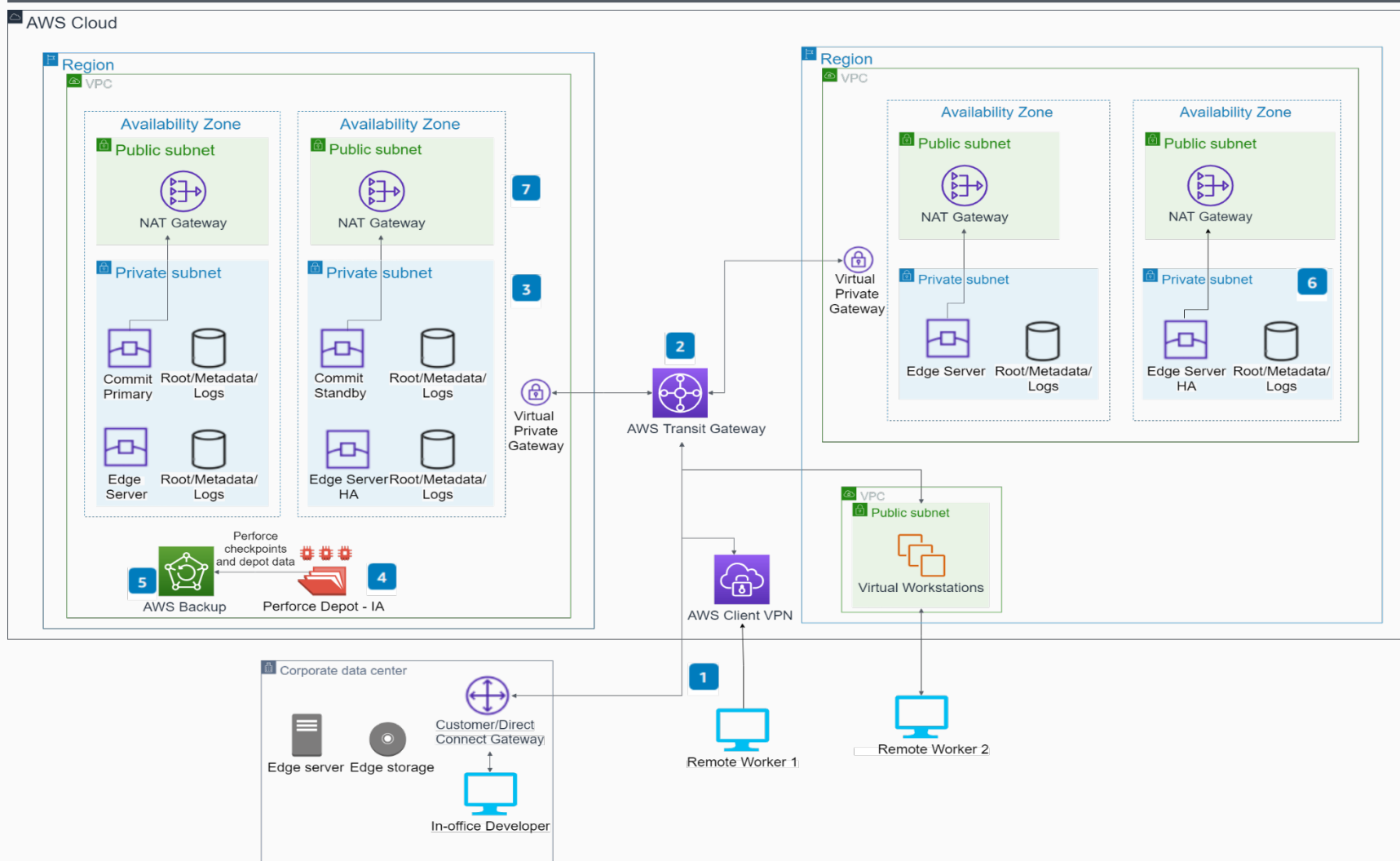# AWS Distributed Perforce Architecture
Hybrid and Multi-Region Deployment
A hybrid multi-Region deployment of Perforce Helix Core in AWS

1   Connect corporate data center edge server to the AWS primary Region by **AWS Direct Connect** or **AWS Site-to-Site Virtual Private Network (VPN)** depending on bandwidth and connection stability needs. Connect remote users by **AWS Client VPN** (or other VPN solution) or virtual workstations on AWS.

2   **AWS Transit Gateway** connects virtual private clouds (VPCs) and on-premises networks through a central hub-and-spoke model to simplify complex peering relationships and encrypt data in transit.

3   Perforce commit-edge architecture offers the best overall performance with most commands running locally. The primary and replica/high availability servers run in separate availability zones for further high availability.

4   If your depot is less than 16 TB, AWS recommends running Perforce on **Amazon Elastic Block Store (Amazon EBS)** GP3 volumes. The maximum **EBS** volume size is 16 TB; therefore, storing the Perforce depot in **Amazon Elastic File System (Amazon EFS)** is recommended for customers who have a Perforce depot larger than (or will soon be larger than) 16 TB. AWS recommends using **Amazon EFS Standard-Infrequent Access (EFS Standard-IA)** for cost optimization, because Perforce use is particularly well suited to the **EFS Standard-IA** cost model.

5   **AWS Backup** is used for **Amazon EFS** backups. If you are running Perforce on **Amazon EBS** only, **EBS** snapshots are the standard backup mechanism. **AWS Backup** works with **Amazon EBS** as well, but is not required.

6   Edge Server high availability is not required, depending on recovery point objective and recovery time objective. Restoring from an **EBS** snapshot is a slower but more cost effective solution.

7   Use an NAT gateway so that instances in a private subnet can connect to services outside your VPC, but external services cannot initiate a connection with those instances.

AWS Reference Architecture