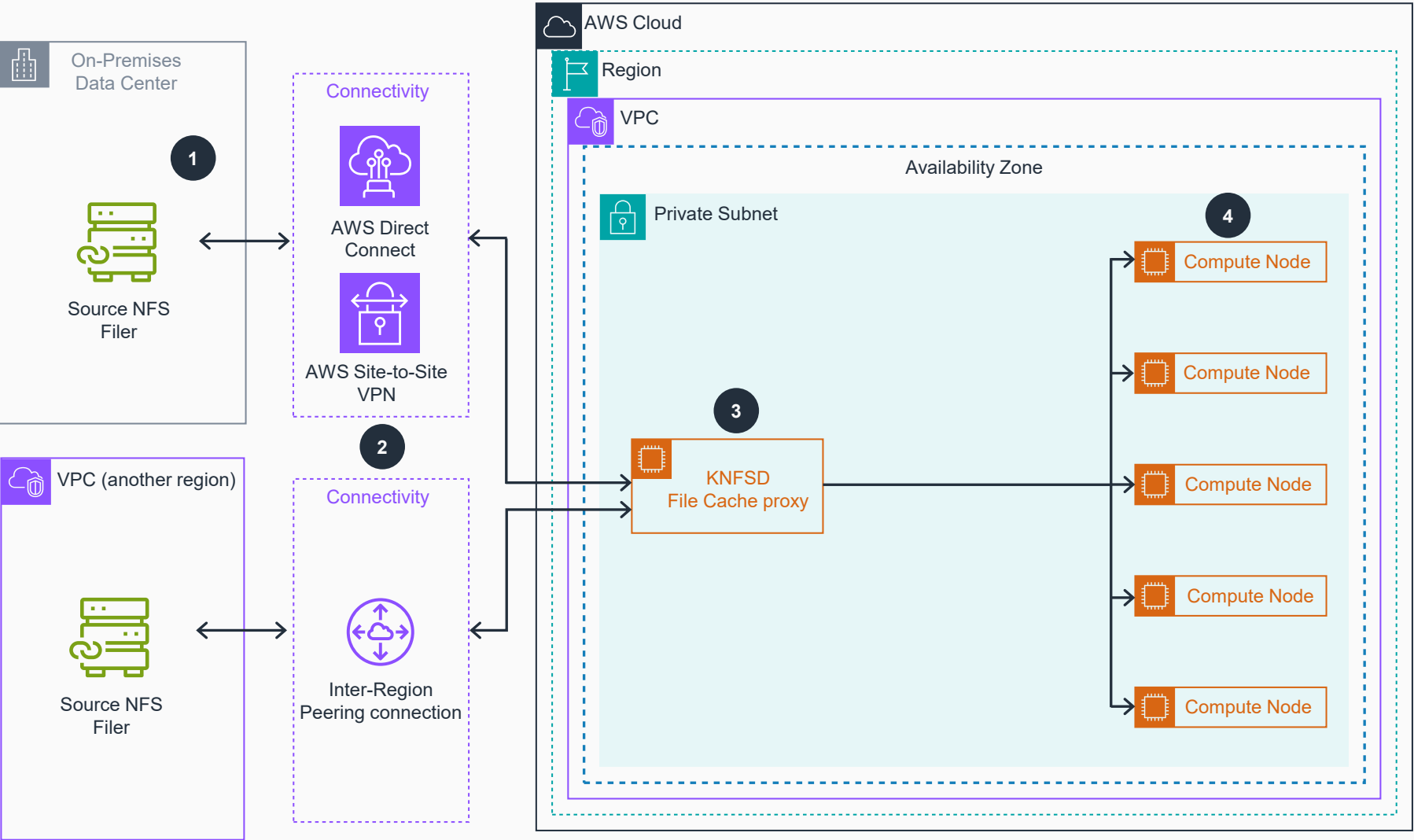


Guidance for KNFSD File Cache on AWS

KNFSD File Cache

This architecture diagram shows how to deploy a Kernel NFS Daemon (KNFSD) File Cache NFS Caching Proxy to scale the presentation of a remote NFS filer to a fleet of compute nodes on AWS



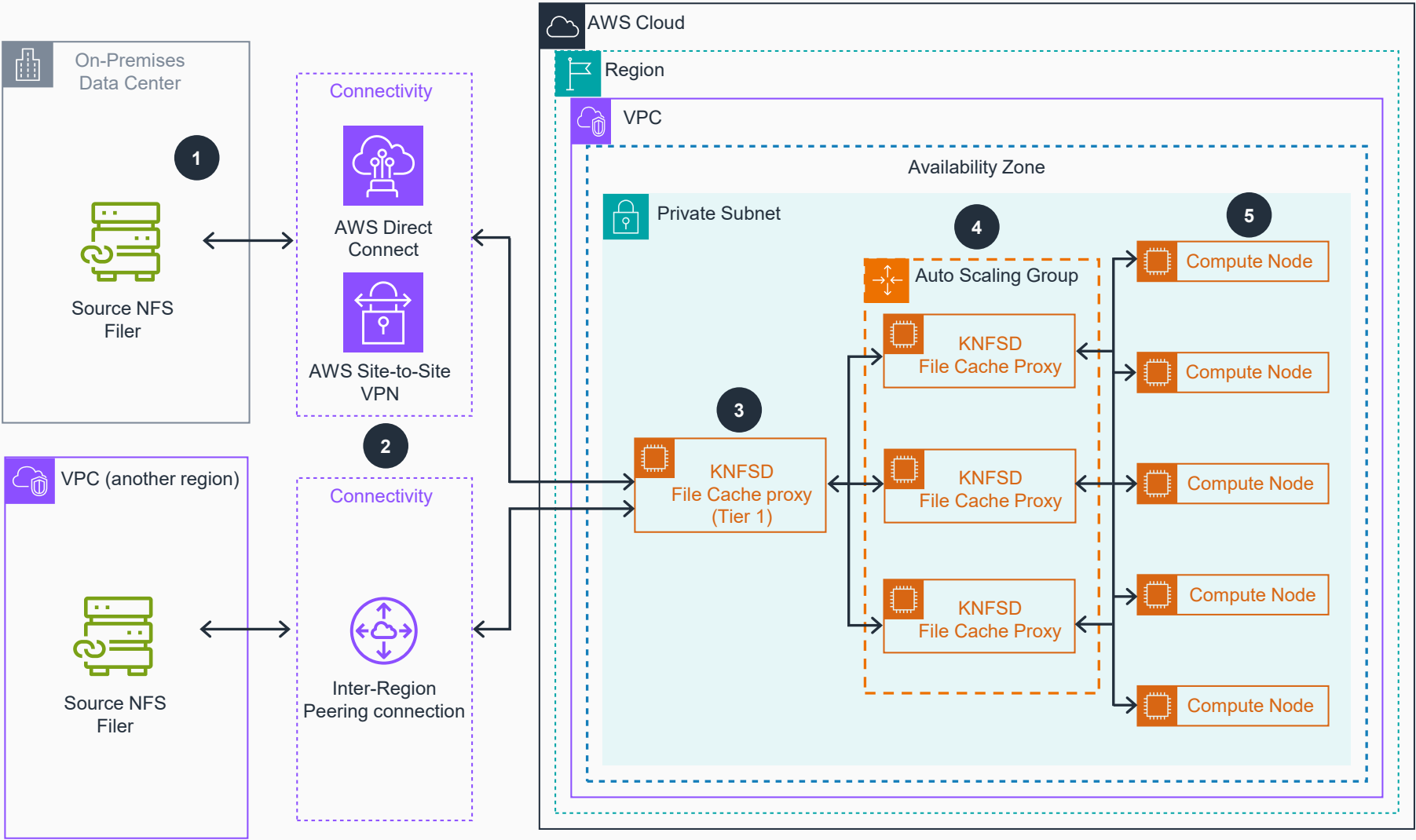
- 1 Original source data to be accessed by compute nodes running in AWS is stored in a NFS filer hosted either in an on-premises data center or in an **Amazon Virtual Private Cloud (Amazon VPC)** in a different AWS region.
- 2 Securely connect the remote facility to AWS using **AWS Direct Connect** or **AWS Site-to-Site VPN** for on-premises facilities or use Inter-Region Peering to connect the two VPCs across AWS regions.
- 3 Proxy and in-line cache the remote filer by deploying a KNFSD File Cache proxy node on an **Amazon Elastic Cloud Compute (Amazon EC2)** instance deployed in a private subnet in the same Availability Zone of the VPC hosting the compute nodes.
- 4 Compute nodes access cached versions of the source data from the KNFSD File Cache proxy nodes by mounting the filesystem using NFS v3, v4.1 or v4.2. No client side modifications are required.



Guidance for KNFSD File Cache on AWS

Two-tier Fan Out

This architecture diagram shows how to deploy a two-tier fan-out architecture of a Kernel NFS Daemon (KNFSD) File Cache NFS Caching Proxy to scale the presentation of a remote NFS filer to a fleet of compute nodes on AWS



- 1 Original source data to be accessed by compute nodes running in AWS is stored in a NFS filer hosted either in an on-premises data center or in an **Amazon Virtual Private Cloud (Amazon VPC)** in a different AWS region.
- 2 Securely connect the remote facility to AWS using **AWS Direct Connect** or **AWS Site-to-Site VPN** for on-premises facilities. Use Inter-Region Peering to connect two VPCs across AWS regions.
- 3 Deploy a first tier KNFSD File Cache proxy node to proxy and in-line cache the remote filer on an **Amazon Elastic Cloud Compute (Amazon EC2)** instance deployed in a private subnet in the same Availability Zone of the VPC hosting the compute nodes. Select an instance-type 2-8x more powerful than the second tier of KNFSD proxy nodes.
- 4 To support high compute node counts, deploy an auto-scaling group of additional KNFSD File Cache proxy nodes to provide a second tier of caching. Use NFS v4.1+ to overcome file handle size limitations in NFS v3.
- 5 Compute nodes access cached versions of the source data from the KNFSD File Cache proxy nodes by mounting the filesystem using NFS v4.1 or v4.2. No client side modifications are required.

