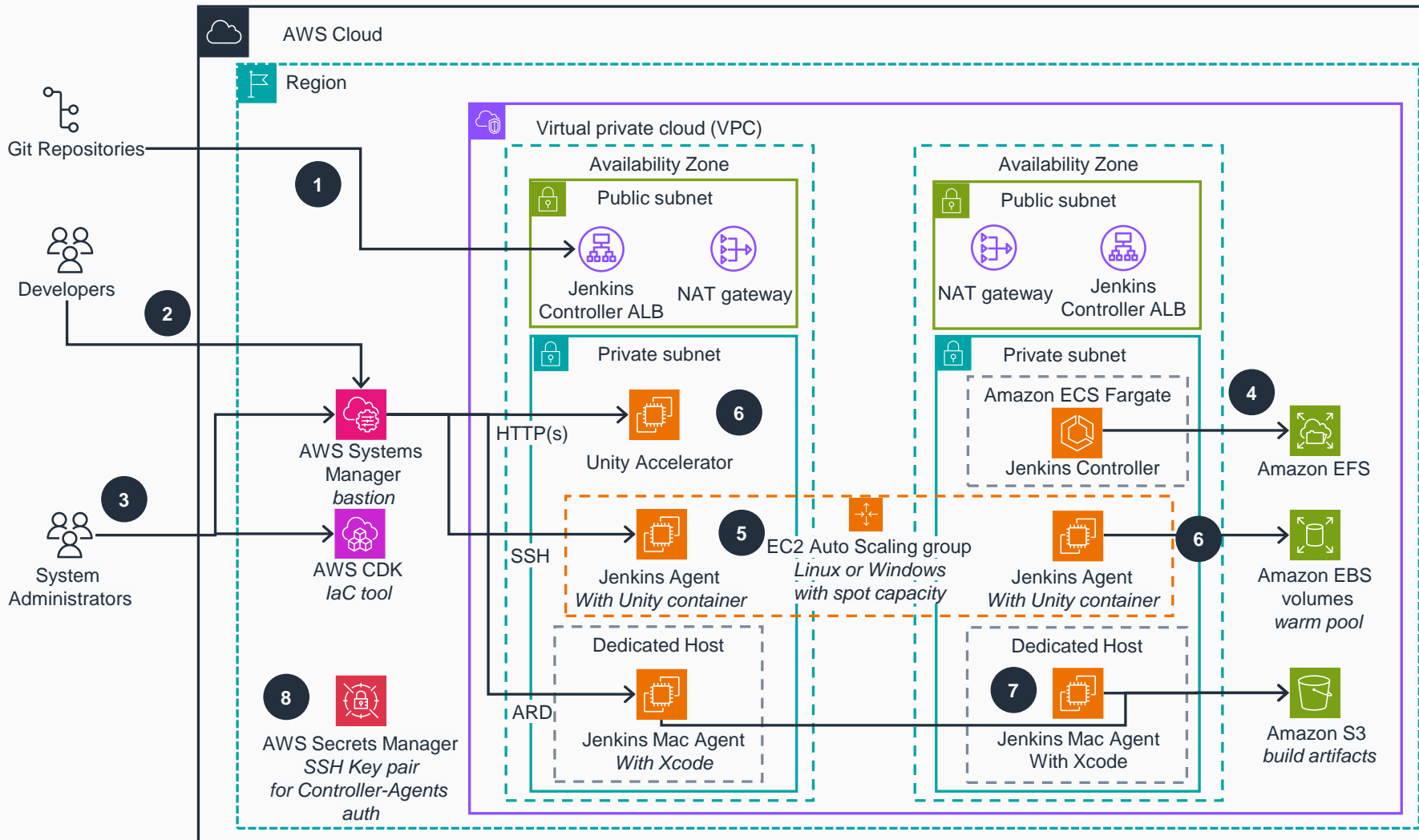


Guidance for Developing Apple iOS and Vision Pro Applications with Unity on Amazon EC2

This architecture diagram shows how to build Unity-based Apple Vision Pro and mobile projects for iOS in the AWS Cloud. The build process uses a two-step approach, using an auto-scaled fleet of Amazon Elastic Compute Cloud (Amazon EC2) Spot Instances and Amazon EC2 Mac Instances, to achieve flexibility and cost-efficiency within the pipeline.



- Code Repository and Jenkins Integration:** The source code is stored in a Git code repository. Jenkins pulls the source code from the repository to initiate a build. Developers access the Jenkins Controller interface through an Application Load Balancer.
- Developer and Administrator Access:** Developers and system administrators access **Amazon EC2 Mac Instances** through an Apple Remote Desktop (ARD). They access Linux agents through SSH, and the Unity Accelerator through HTTP using **AWS Systems Manager**.
- Infrastructure Management:** System Administrators deploy and manage the infrastructure using the **AWS Cloud Development Kit (AWS CDK)**.
- Jenkins Controller Deployment:** The Jenkins Controller is deployed on **AWS Fargate** for **Amazon Elastic Container Service (Amazon ECS)** using the **AWS CDK**. **Amazon Elastic File Service (Amazon EFS)** is used to support redundancy.
- Build Stage on Spot Instances:** The first build stage, which involves generating the Xcode project from the Unity source code, is run on **Amazon Elastic Compute Cloud (Amazon EC2) Spot Instances**. The Spot Instances are placed into an **Amazon EC2 Auto Scaling** group for scalability and redundancy.
- Jenkins Agent Instances and Caching:** Jenkins agent instances use **Amazon Elastic Block Storage (Amazon EBS)** volumes and **Amazon Simple Storage Service (Amazon S3)** for repository and build asset caching mechanics. The Unity Accelerator can also be used for Unity asset caching.
- Final Build and Artifact Storage:** The resulting Xcode project is transferred to a Jenkins worker hosted on one of the **Amazon EC2 Mac Instances** to finalize, sign the build, and export the artifact. The .ipa or Xcode archive file is exported as a Jenkins artifact and stored in an **Amazon S3** bucket.
- Secure Storage of Credentials:** Certificates, private keys, and provisioning profiles are stored in **AWS Secrets Manager** and dynamically pulled onto the Mac instances during the build process.

