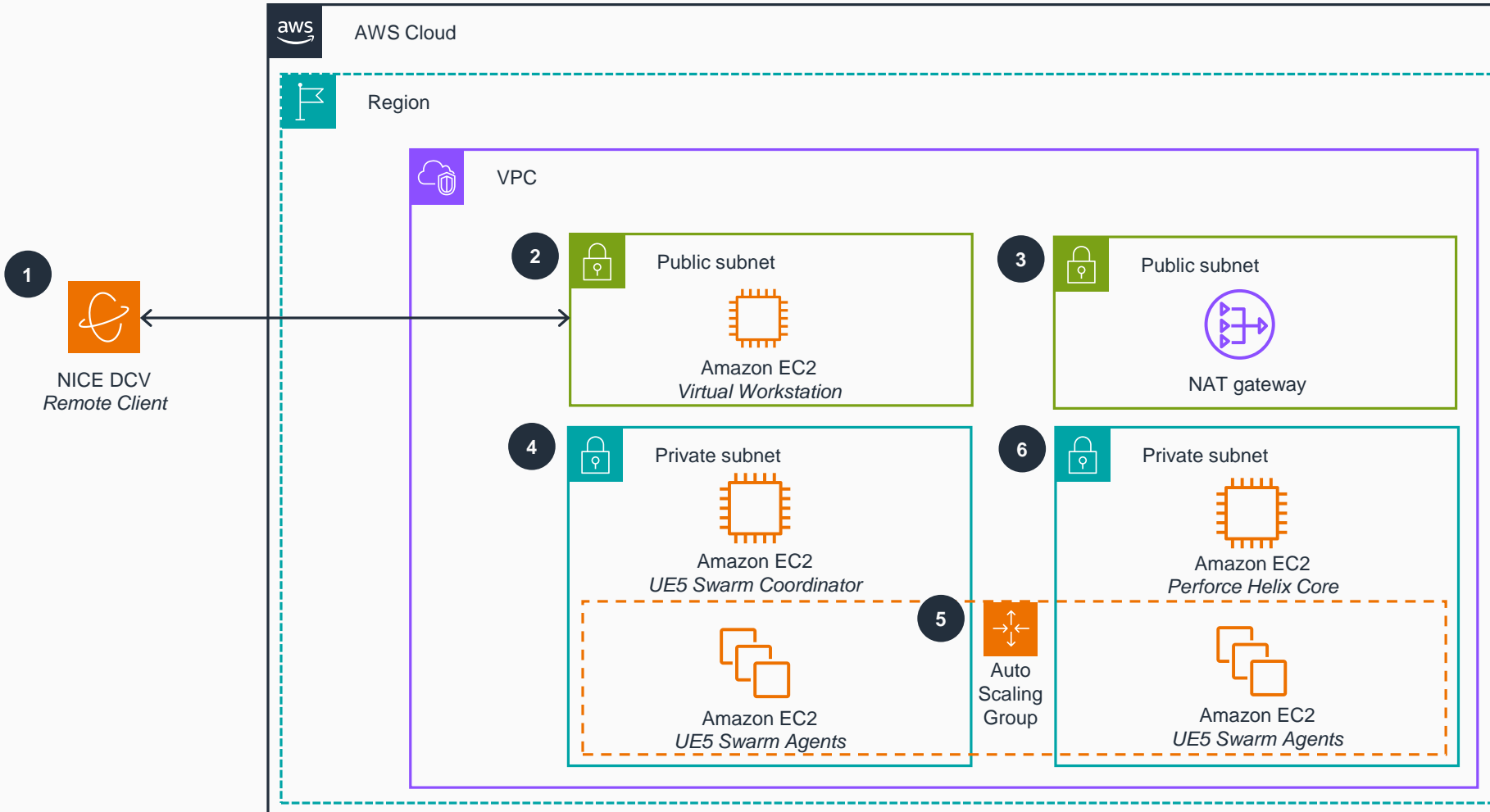


Guidance for a Game Production Environment on AWS

This architecture diagram shows how game developers can build a cloud-based Unreal Engine 5 (UE5) development environment featuring a virtual workstation and version control with Perforce Helix Core and how they can build acceleration with Incredibuild and Unreal Engine Swarm. The virtual workstation with GPU-accelerated graphics allows developers to work in their environment remotely and securely, while taking advantage of the high speed AWS network to accelerate build and version control sync tasks.



- 1 **NICE DCV** remote client connects to the virtual workstation instance hosted on **Amazon Elastic Compute Cloud (Amazon EC2)** by providing the public IP address of the instance and authentication credentials.
- 2 The GPU-based virtual workstation hosts a **NICE DCV** server, providing end-to-end security between the remote client and the **EC2** instance. The virtual workstation can access private resources, such as the Perforce Helix Core version control system through the **Amazon Virtual Private Cloud (Amazon VPC)**.
- 3 The NAT gateway allows resources in the private subnet to access resources over the public internet, such as license and update services.
- 4 The Unreal Engine Swarm coordinator, which is responsible for distributing build tasks, is a private resource, available only to resources in the **Amazon VPC**. The Swarm coordinator has its own **EC2** instance, isolating it from any downtime in other instances and creating a microservices environment.
- 5 Unreal Engine Swarm Agents are responsible for using system resources to complete jobs assigned by the Swarm Coordinator. Instances hosting the agents are placed in an **Amazon EC2 Auto Scaling** group which allows Swarm Agents to be added or removed as workload demands change.
- 6 The version control system (Perforce) is in its own instance, following the microservice pattern. This isolates it from any downtime in other instances and facilitates more complex repository structures if required.