**What are Network Interfaces**

An elastic network interface know as Network Interface is a logical networking component in Virtual Private Cloud (VPC) that represents as a virtual network card and This will be attached to EC2 instance for enabling network connectivity for our instance.

It can include the following attributes.

* Network interface id
* Network interface owner (user’s amazon account id)
* VPC id
* Subnet id
* Availability Zone
* Instance id to which its attached
* Security groups
* A primary private IPv4 address from the IPv4 address range of your VPC
* One or more secondary private IPv4 addresses from the IPv4 address range of your VPC
* One Elastic IP address (IPv4) per private IPv4 address
* One public IPv4 address
* One or more IPv6 addresses
* One or more security groups
* A MAC address
* A source/destination check flag
* A description

You can create a network interface, attach it to an instance, detach it from an instance, and attach it to another instance.

When we moved a network interface from one instance to another instance network traffic is redirected to new instance.

You can attach more than 1 network interface to a single instance.

**Note:** The maximum number of network interfaces that you can use varies by instance type.

Every instance in a VPC has a default network interface called primary network interface.

**Note:** We can’t detach the primary network interface from an instance.

**Scenarios for network interfaces**

Attaching multiple network interfaces to an instance is useful when you want to:

* Create a management network.
* Use network and security appliances in your VPC.
* Create dual-homed instances with workloads/roles on distinct subnets.
* Create a low-budget, high-availability solution.

**Best practices for configuring network interfaces**

1. You can attach a network interface to an instance when it's running (hot attach), when it's stopped (warm attach), or when the instance is being launched (cold attach).
2. You can detach secondary network interfaces when the instance is running or stopped. However, you can't detach the primary network interface.
3. You can move a network interface from one instance to another, if the instances are in the same Availability Zone and VPC but in different subnets.
4. Attaching another network interface to an instance (for example, a NIC teaming configuration) cannot be used as a method to increase or double the network bandwidth to or from the dual-homed instance.
5. If you attach two or more network interfaces from the same subnet to an instance, you may encounter networking issues such as asymmetric routing. If possible, use a secondary private IPv4 address on the primary network interface instead.