AWS Services: Some Confusing Terms

The distinction between different AWS Services — Part 1

Parth Trambadiya Follow

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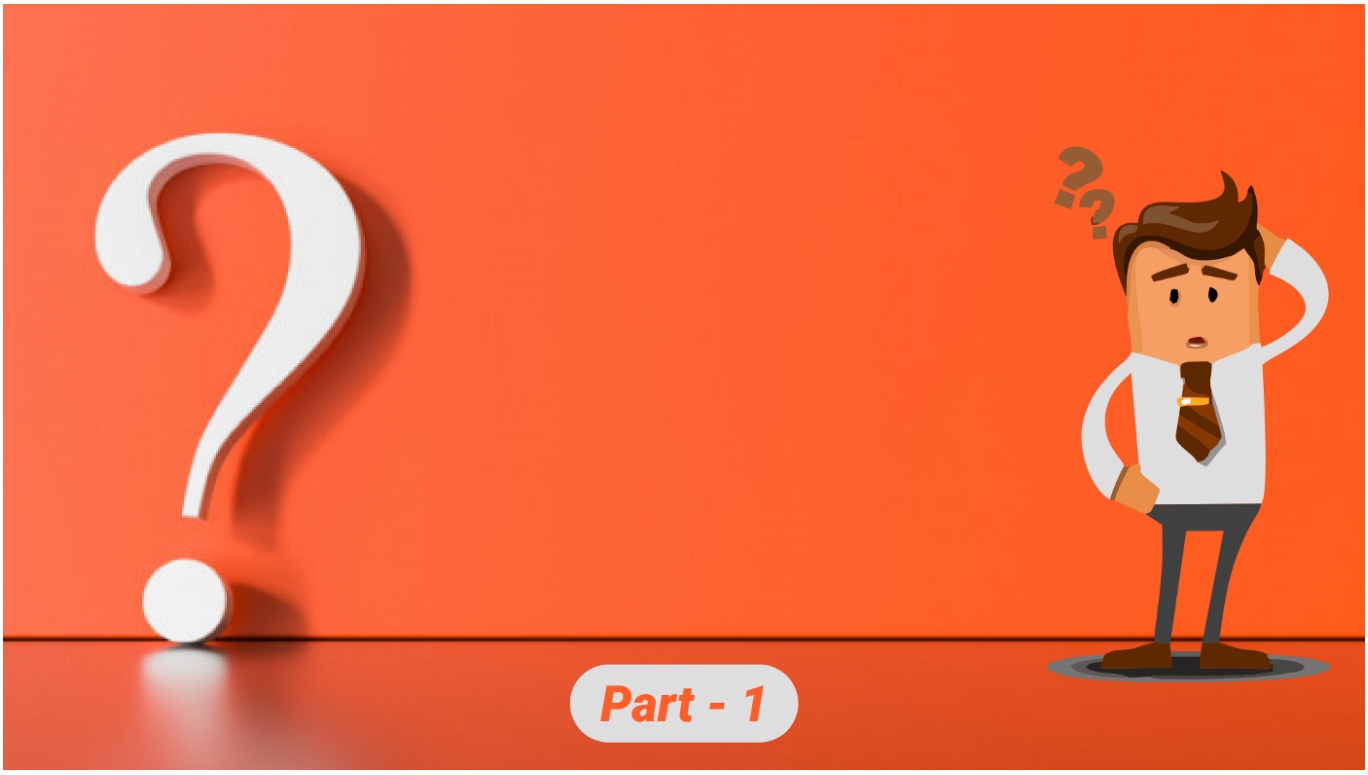


When I was preparing for AWS Certification exams, I was having a lot of confusion regarding some AWS Services or some terms in AWS Services like when I needed to use this service or that service, what was the working difference between two services or two different options within the service, etc.

I am sure you have also faced confusion in some AWS Services or some AWS Services terms when you were preparing for the AWS certification exam, especially for AWS Solutions Architect Associate. Or maybe when you were working with AWS.

I have come across many confusing terms, so I decided to divide the article into several parts. So I request everyone to read all my posts as I publish them. In this blog post, I am going to show you the difference between the following terms or services:

- Gateway Endpoint & Interface Endpoint

- CloudFront & Global Accelerator
- Public IP & Elastic IP
- Dedicated Host & Dedicated Instance
- NAT Gateway & NAT Instance
- Cognito User Pool & Cognito Identity Pool

VPC Gateway Endpoint & VPC Interface Endpoint

Interface Endpoint	Gateway Endpoint
An interface endpoint is one kind of ENI (Elastic Network Interface) with a private IP address from the IP address range of your subnet that serves as an entry point for traffic destined to a supported service.	Gateway endpoint as a route table target for traffic that is destined for the supported AWS services.
Interface Endpoint is powered by AWS Private Link.	Gateway endpoints does not use AWS Private Link.
It connects VPC Resources to almost all AWS Services, such EFS, SNS, SQS, ELBs, etc...	It connects VPC Resources to only two AWS Services, Amazon S3, Amazon DynamoDB.
It uses AWS Private Link, so AWS charges usage and data processing rates for Private Link, so there is an additional cost involved with creating and using an interface endpoint.	It does not use AWS Private Link, so apart from the standard costs of data transfer and resource use, AWS doesn't charge extra for using gateway endpoints
Interface endpoints also allow you to attach an endpoint policy controlling access to the service.	In Gateway Endpoint, S3 bucket policies can be used to control access to buckets and DynamoDB doesn't support resource-based policies, so access is only controlled through the gateway endpoint and user/role/group IAM policies

VPC Gateway Endpoint & VPC Interface Endpoint

More Details:

Interface Endpoint: https://docs.aws.amazon.com/vpc/latest/privatelink/vpce-interface.html

Gateway Endpoint: https://docs.aws.amazon.com/vpc/latest/privatelink/vpce-gateway.html

CloudFront & Global Accelerator

Both these services use the AWS Global Network and its Edge Locations around the world.

CloudFront	Global Accelerator
It improves performance for both types of content Cacheable Content (such as Images, Videos, etc.) and Dynamic Content (such as dynamic site delivery, etc.).	It improves performance for a wide range of Application over TCP or UDP
CloudFront is best fit for HTTP use cases.	Global Accelerator is best fit for both HTTP and Non - HTTP use cases.
CloudFront uses multiple sets of dynamically changing IP addresses.	Global Accelerator will provide you a set of static IP addresses as a fixed entry point to your applications.
CloudFront uses Edge Locations to cache content.	Global Accelerator uses Edge Locations to find an optimal pathway to the nearest regional endpoint.
CloudFront pricing is based on data transfer out and HTTP requests.	Global Accelerator charges a fixed hourly fee and an incremental charge over your standard Data Transfer rates, also called a Data Transfer-Premium fee (DT-Premium).

CloudFront & Global Accelerator

More Details:

CloudFront:
https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Introduction.html

Global Accelerator: https://docs.aws.amazon.com/global-accelerator/latest/dg/what-is-global-accelerator.html

Public IP & Elastic IP

Public IP	Elastic IP

Public IP is assigned to your launched instance.	Elastic IP is assigned to your AWS Account.
When you stop, hibernate or terminate instance, public IP will release and when you start instance from stopped stage, new public IP will assign to your instance.	When you have assigned Elastic IP to your instance, it will remain same across stop or hibernate.
When a public IP address is disassociated from your instance, it is released back into the public IPv4 address pool, and you cannot reuse it.	When Elastic IP address is disassociated from your instance, it is released back into your the Elastic IP pool, you can reuse it.
	AWS charge you small hourly charge if an Elastic IP address is not associated with a running instance, or if it is associated with a stopped instance or an unattached network interface

Public IP & Elastic IP

More Details:

Public IP: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-instance-addressing.html

Elastic IP: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html

Dedicated Host & Dedicated Instance

Dedicated Host	Dedicated Instance
In dedicated host, there is Physical Server-level isolation from other AWS Accounts.	In dedicated instance, there is Instance-level isolation from other AWS Accounts.
Pricing is per-host billing.	Pricing is per-instance billing.
In dedicated host, there is visibility of Sockets, Cores and Host ID.	In dedicated instance, there is not visibility of Sockets, Cores and Host ID.
Dedicated Host allows you, control over placement of instances in the physical host.	In dedicated instance, you don't have control over placement of instances.
Automatic instance recovery is not	Automatic instance recovery is

supported.	supported.
It supports Bring Your Own License (BYOL)	It does not support Bring Your Own License (BYOL)

Dedicated Host & Dedicated Instance

More Details:

Dedicated Host: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/dedicated-hosts-overview.html

Dedicated Instance: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/dedicated-instance.html

NAT Gateway & NAT Instance

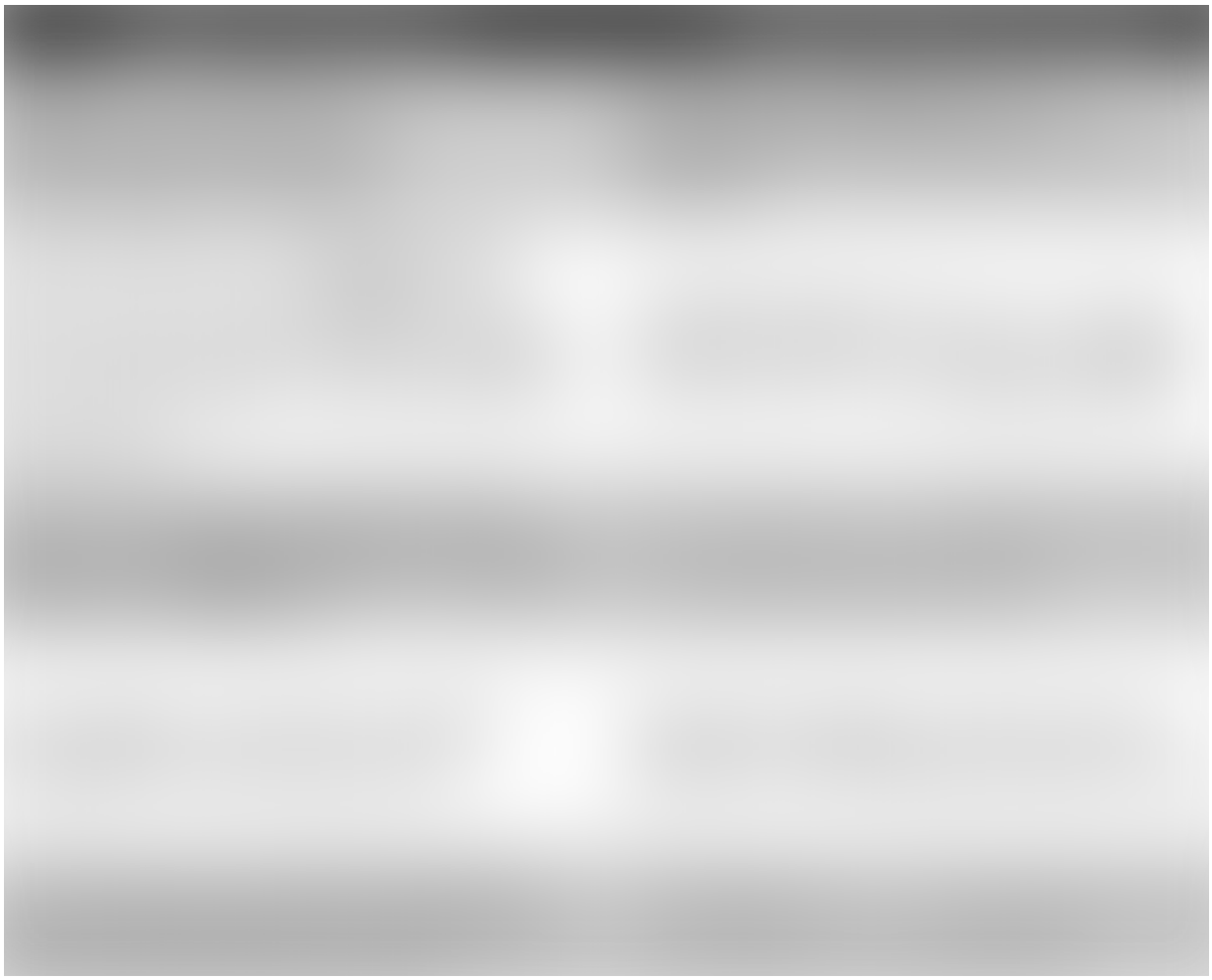
NAT Gateway & NAT Instance

More Details:

NAT Gateway: https://docs.aws.amazon.com/vpc/latest/userguide/vpc-nat-gateway.html

NAT Instance:
https://docs.aws.amazon.com/vpc/latest/userguide/VPC_NAT_Instance.html

Cognito User Pool & Cognito Identity Pool



Cognito User Pool & Cognito Identity Pool

More Details:

Cognito User Pool:
https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-user-identity-pools.html

Cognito Identity Pool:
https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-identity.html

So, that's it. Thanks for reading, and please follow me and stay updated and read the upcoming posts of this series.

Part — 2

AWS Services: Some Confusing Terms

The distinction between different AWS Services — Part 2

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Part — 3

AWS Services: Some Confusing Terms

The distinction between different AWS Services — Part 3

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LinkedIn: https://www.linkedin.com/in/parth-trambadiya/

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