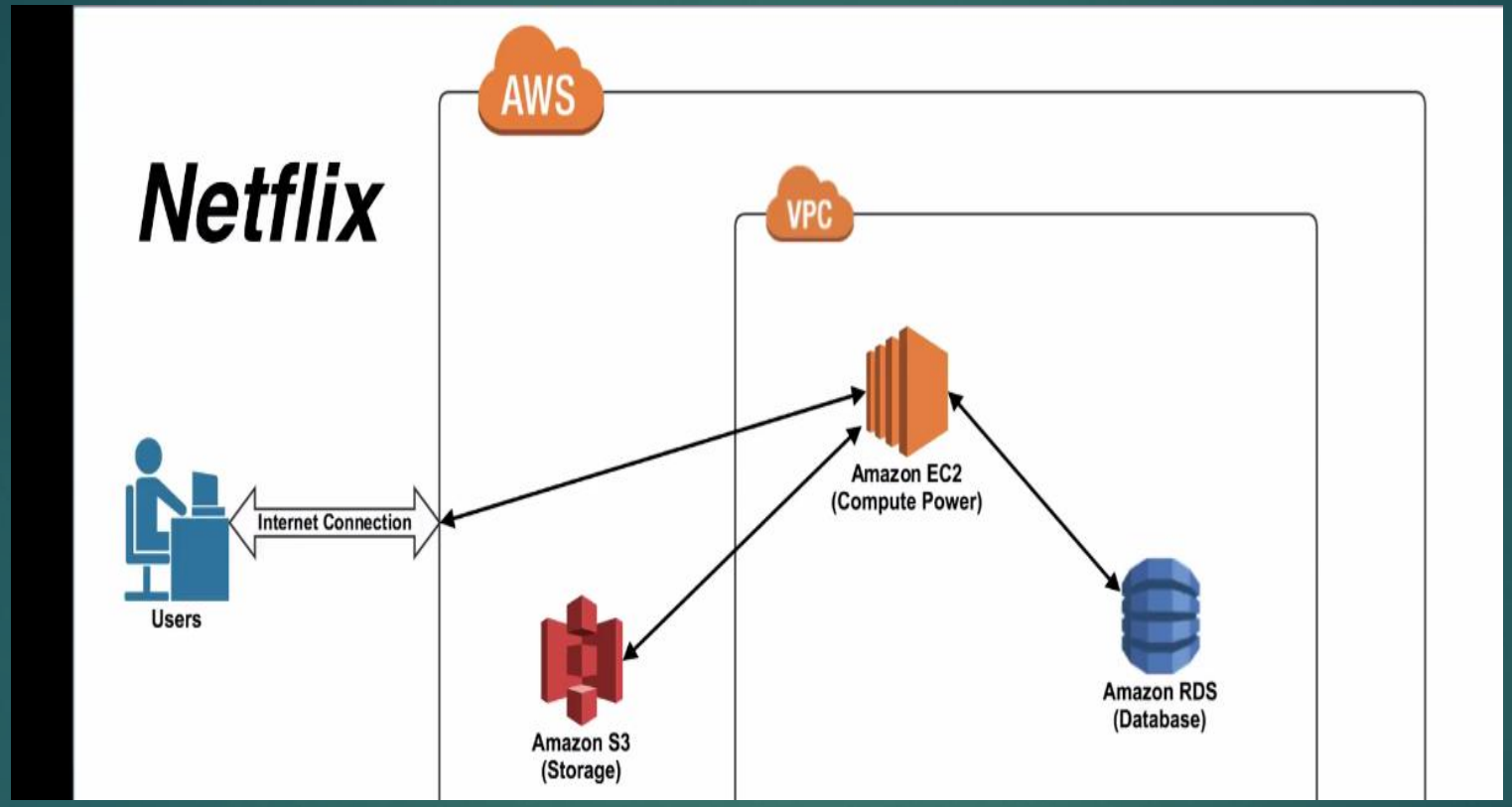
AWS EC2
Elastic Computing Cloud

Amazon EC2



- Provide secure and reliable compute capacity in cloud .
- It needed two instances, not more than that.
- Scaling (Instances scale up or down) depending on requirements.

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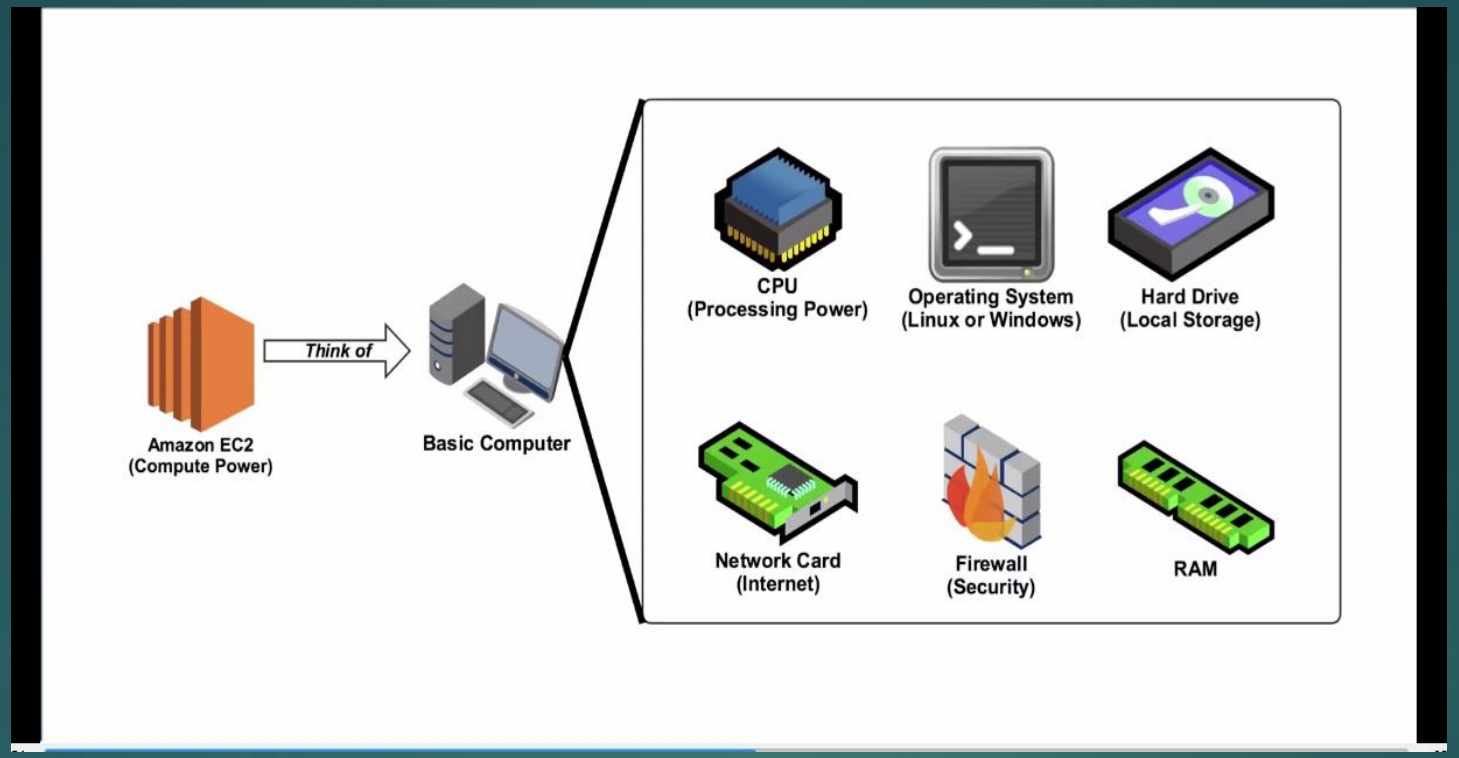

- Integrated with other services like S3, RDS-high ended requirements
- Pay for what you use.
- Instances can be launch in one or more regions.

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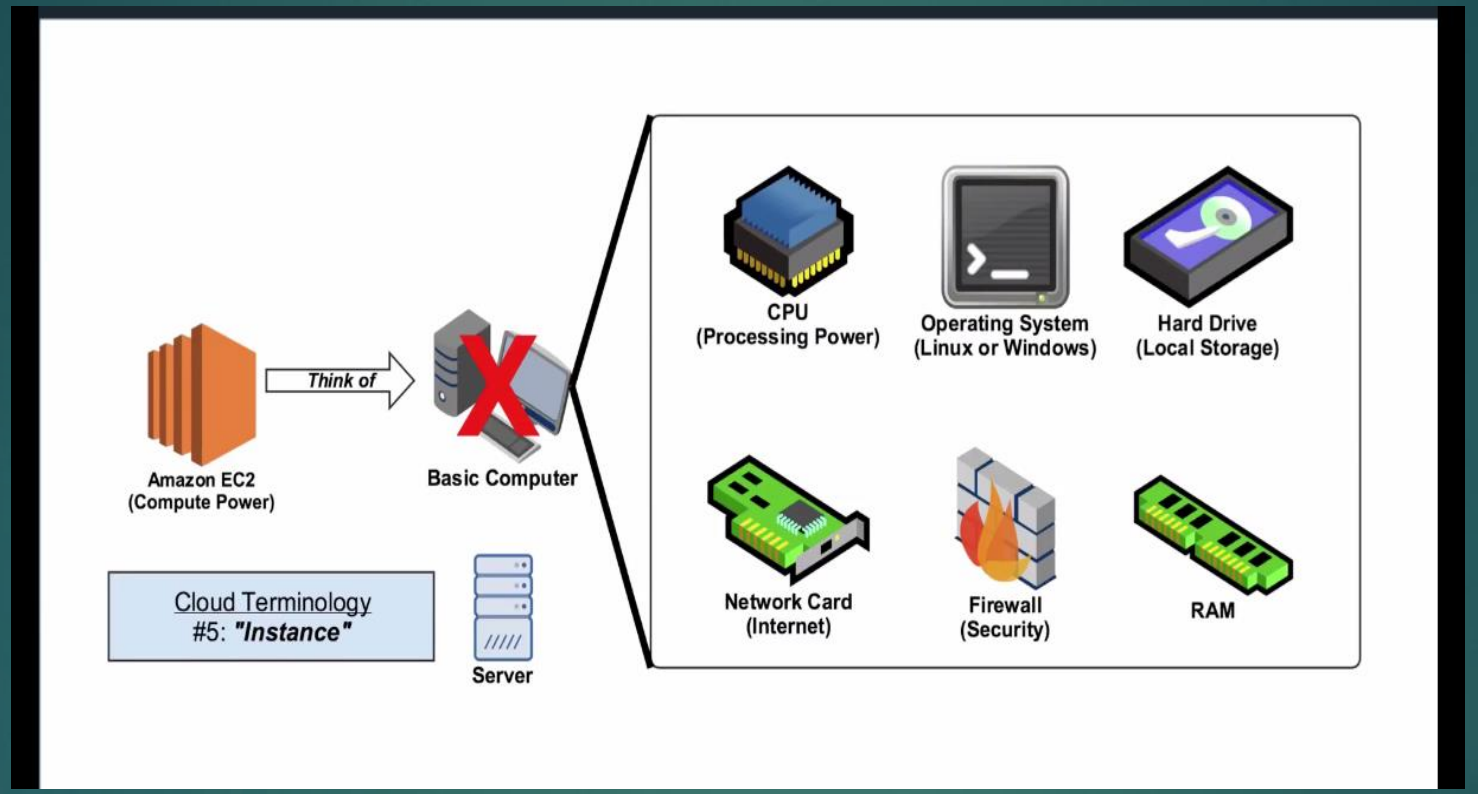
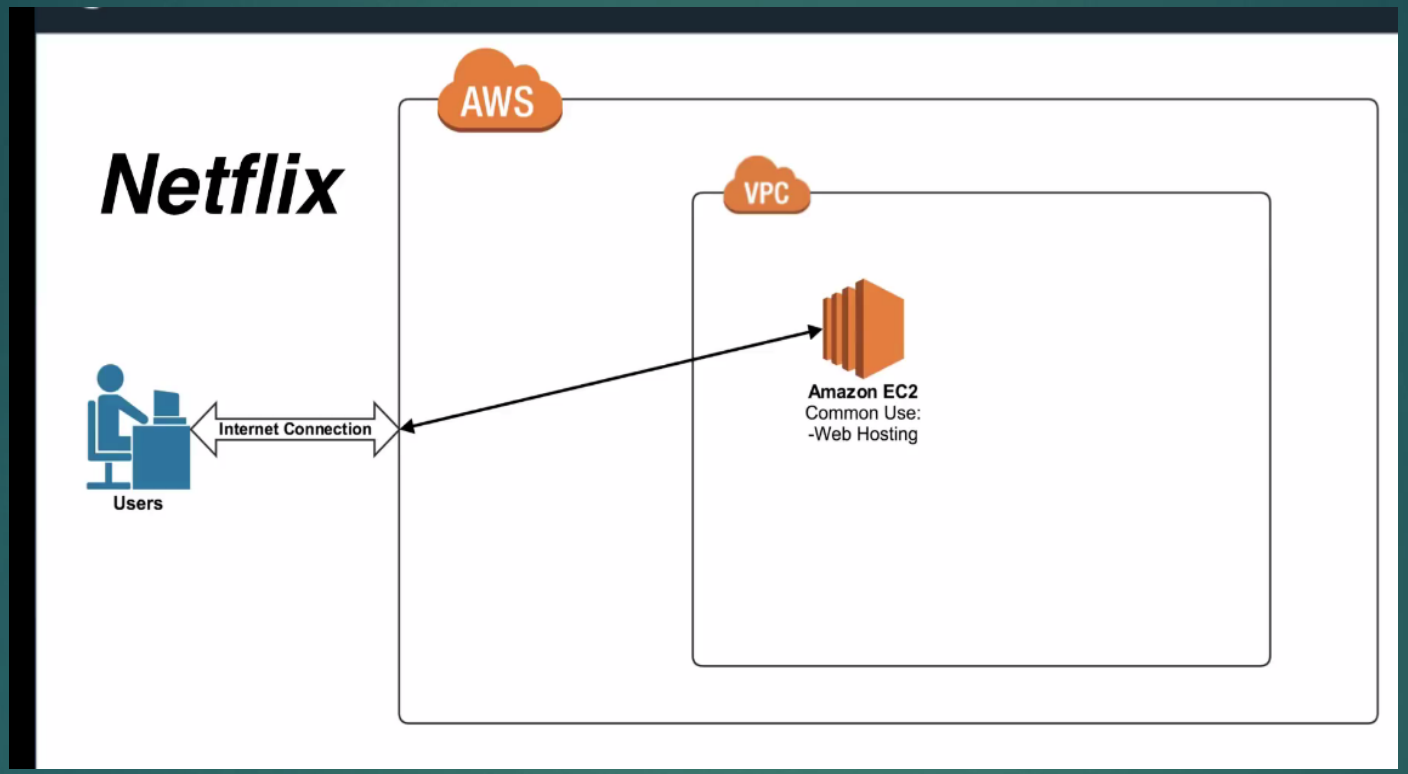


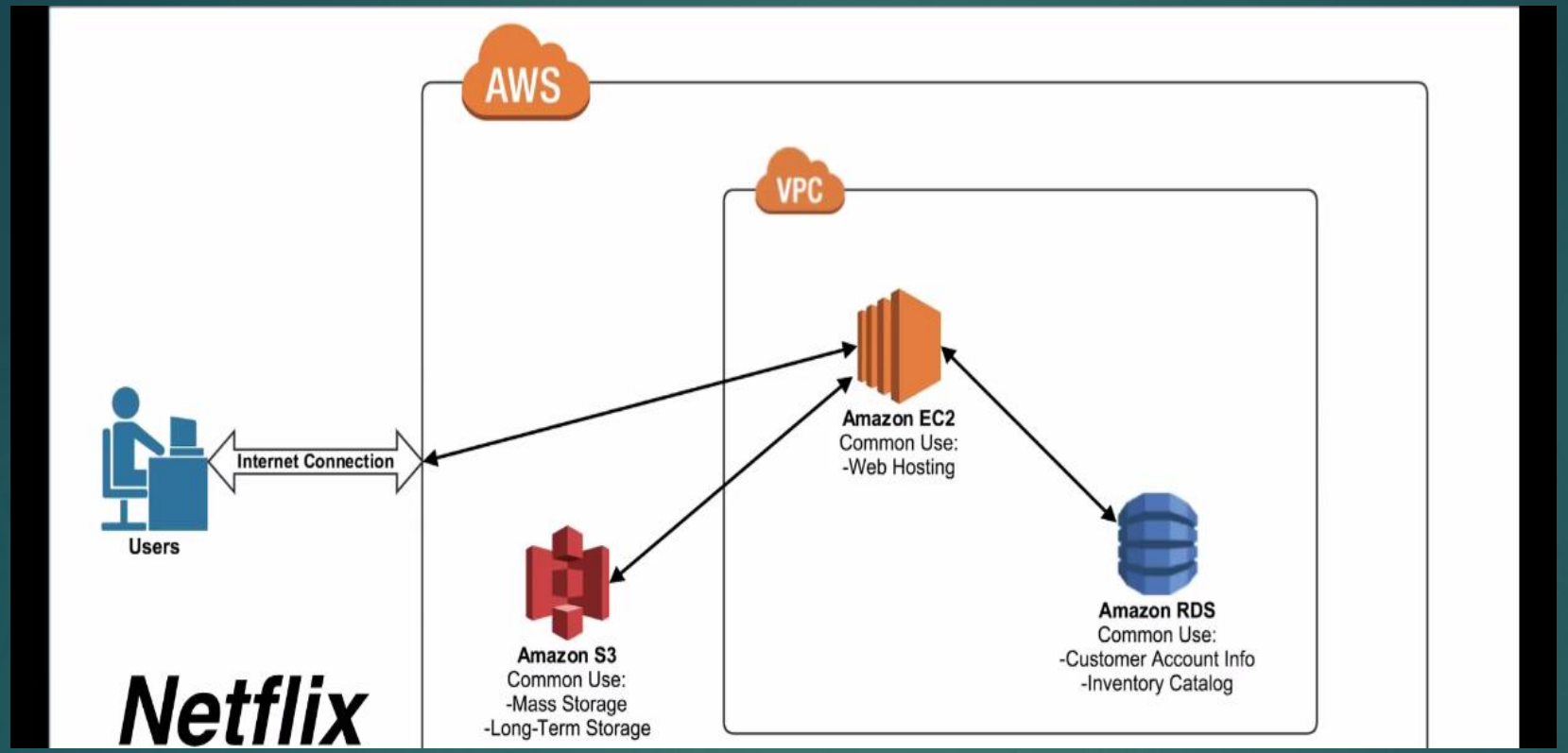
- Support for different OS.
- Works with Amazon VPC to provide secure network resource.
- EC2 Instances actually use as compute power for powerful processing.

Amazon EC2



- Virtual Private Cloud- provide secure N/W resource.
- Used to create logical Env. Inside AWS env.
- Amazon VPC lets us provision a logically isolated section of AWS where we can launch AWS resource in a virtual N/W.

Amazon EC2



- We have a complete control over our virtual networking environment, including selection of own IP address range, creation of subnets, configuration of route tables and N/W gateway.
- Advanced security features are also available.

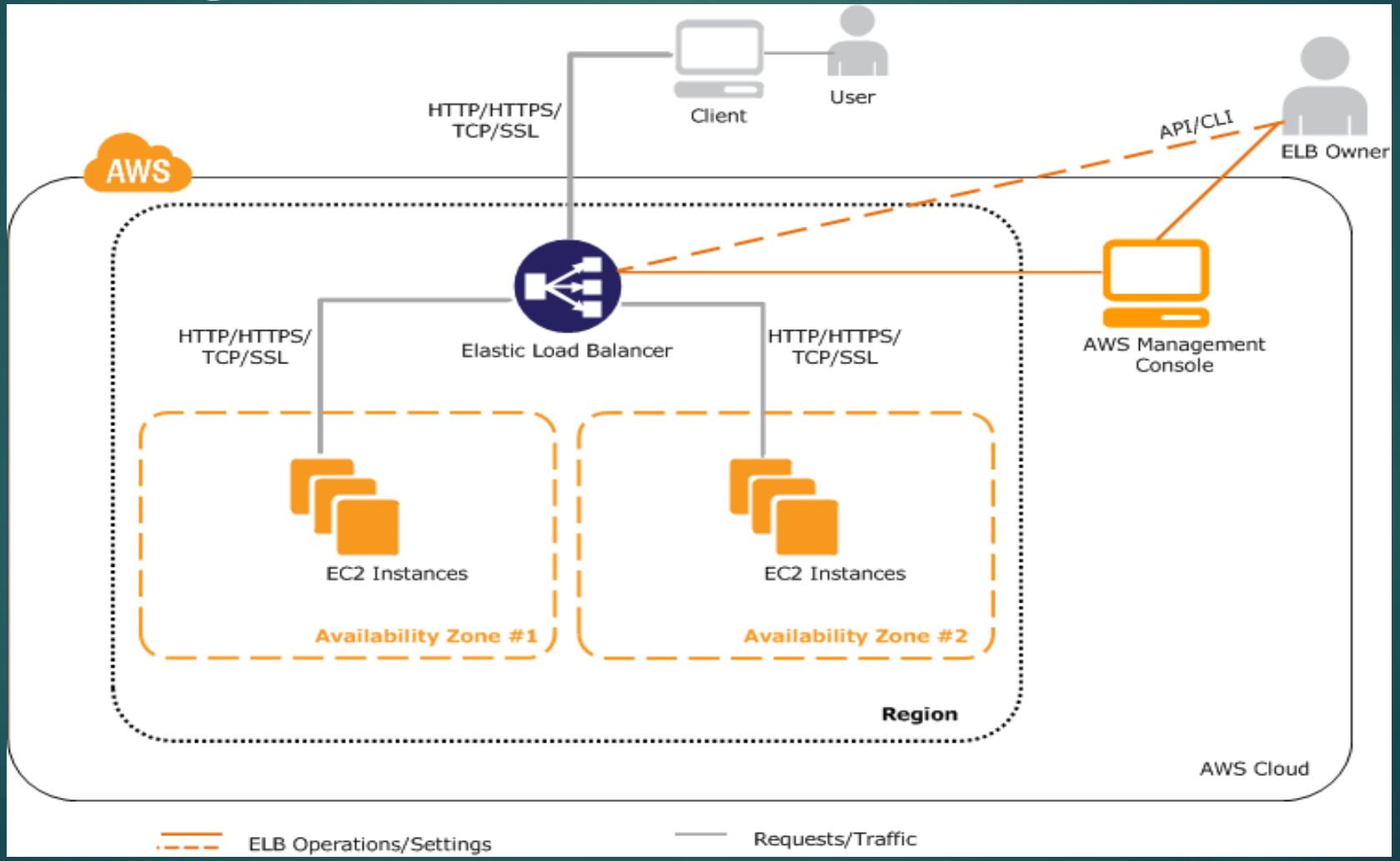
Elastic Load Balancing

- Amazon Web Services (AWS) provides Elastic Load Balancing to automatically distribute incoming web traffic across multiple Amazon Elastic Compute Cloud (Amazon EC2) instances.
- With Elastic Load Balancing, you can add and remove EC2 instances as your needs change without disrupting the overall flow of information.
- If one EC2 instance fails, Elastic Load Balancing automatically reroutes the traffic to the remaining running EC2 instances.
- If the failed EC2 instance is restored, Elastic Load Balancing restores the traffic to that instance.

Use Elastic Load Balancing to manage traffic, you get the following benefits:

- Distribution of requests to Amazon EC2 instances (servers) in multiple Availability Zones so that the risk of overloading one single instance is minimized. And if an entire Availability Zone goes offline, Elastic Load Balancing routes traffic to instances in other Availability Zones
- Continuous monitoring of the health of Amazon EC2 instances registered with the load balancer so that requests are sent only to the healthy instances. If an instance becomes unhealthy, Elastic Load Balancing stops sending traffic to that instance and spreads the load across the remaining healthy instances.
- Support for end-to-end traffic encryption on those networks that use secure (HTTPS/SSL) connections.
- The ability to take over the encryption and decryption work from the Amazon EC2 instances, and manage it centrally on the load balancer.
- Supports use of both the Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6).

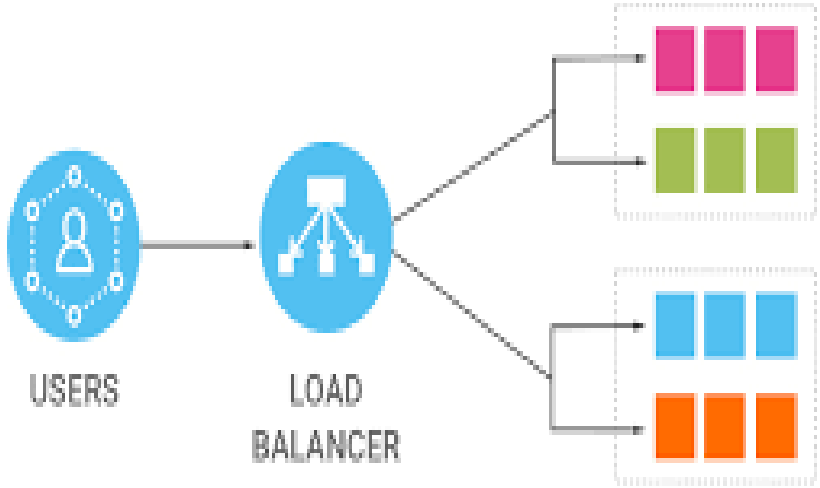
Architectural Overview of Elastic Load Balancing

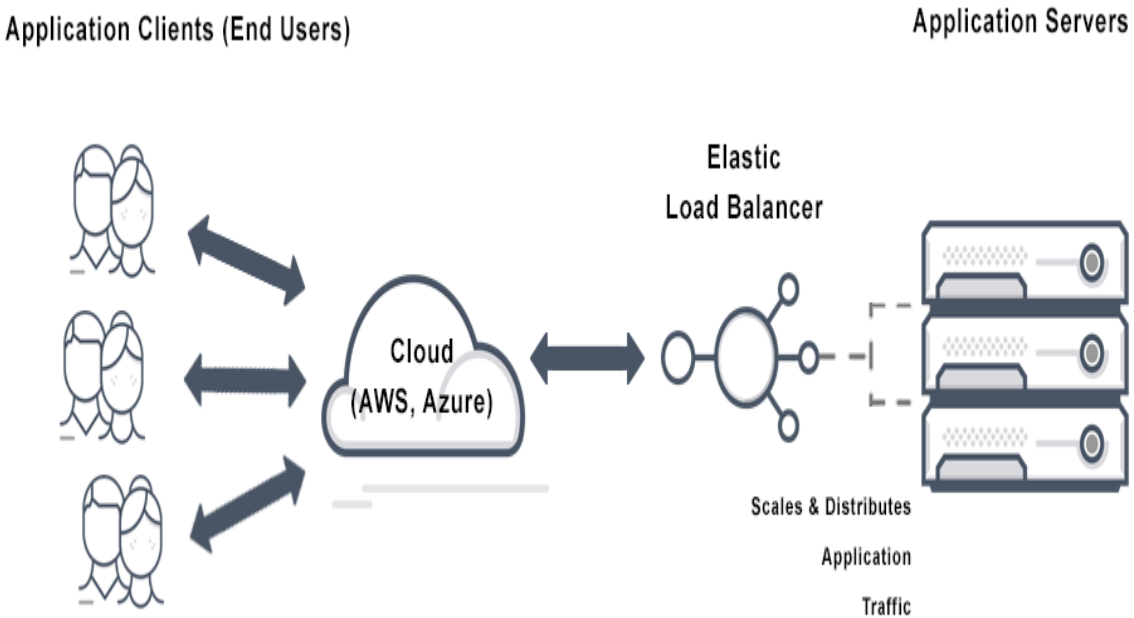


Elastic Load Balancing

- Service provided by AWS which automatically distribute incoming web traffic across multiple EC2 instances.
- They provide flexibility increase or decrease the EC2 instances as our needs without disrupting the overall flow of information.
- ELB is basically like a traffic manager to manage traffic to an application.
- ELB is not expensive.
- Pay-Per-Hours (EC2) or Pay- each Giga byte transfer through your load balance.
- Must need to run at least two EC2 instances and must create a security tool.

Elastic Load Balancing





Various services in AWS integrate with Elastic Load Balancing